Gordon E. Feener, Esq.

Attorney & Counselor-at-Law



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283407

(617) 742-7770 FAX (617) 742-7773

Superfund Records Center

EMAIL: attyfeener@msn.com www.Attyfeener.com

15 Court Square, Boston, MA 02108

March 15, 2004

U.S. Environmental Protection Agency Martha Bosworth Office Of Site Remediation and Restoration (HBS) One Congress Street, Suite 1100 Boston, MA 02114 Attention - Wells G&H Case Team

Re Our Client : LAMCO

In follow up to the above matter, please be advised that this office has been retained by James Lamm on behalf of LAMCO Chemical Company, Inc.

Please find the enclosed responses from our client.

In summary, LAMCO started operation in about 1949 and as a result of market changes their business has decreased to the point of barley surviving.

In general, all paperwork prior to 1985 was destroyed as a result of the firefighting efforts concerning the Chelsea fire of 1973 and a flooded storage area in 1985.

Our client has used his best efforts to put together the enclosed responses.

In compiling his response, our client also relied upon the best memories of Mr. George Lamm (age 81) and Frank Bassett (age 70-75).

Should you have any questions regarding this correspondence or require further information, please do not hesitate to call.

Sincerely,

Gordon E. Feener, Esq.

GEF/jal cc: Client

- 1. General information
 - a. Lamco Chemical Company, Inc.,
 212 Arlington Street
 Chelsea, MA 02150
 617 884-8470
 - b.
- 1. i. George L. Lamm (age 81)
 - ii. Retired Past President and working part-time at Lamco
 - iii. 212 Arlington Street, Chelsea, MA 02150
 - iv. (617) 884-8470
- 2. i. James G. Lamm
 - ii. President
 - iii. 212 Arlington Street, Chelsea, MA 02150
 - iv. (617) 884-8470
- c. None at this time.
- d. None
- 2. a. Lamco Chemical Company has not done business under any other names
 - a1. Names of companies owned by James G. Lamm.
 - i. Lamco Environmental Systems Inc.,
 - 212 Arlington Street Chelsea, MA 02150
 - ii. April 3, 1985
 - i. Fuzzy Fibres
 - 212 Arlington Street Chelsea, MA 02150.
 - ii 1985
 - b. i. July 1949,
 - ii. Massachusetts.
 - iii. Unknown.
 - c. Not applicable.
 - d. Were not investigated
 - e. We had no predecessors.
 - f. Not applicable.
 - g. Not applicable.

3. Operation

- a1. Lamco Chemical Company, Inc.,33 Commercial Wharf,Boston, MA (prior 1965)
- a2. Lamco Chemical Company, Inc.,212 Arlington Street,Chelsea, MA. (1965 to present)
- b. i. July 1949 to present.
- ii. Manufactured water based chemical specialties, filled manufactured products into containers, sold these products as well as other janitorial supplies, and shipped same.
- iii. Manufactured and formulated water emulsion floor waxes, aqueous floor finishes and sealers, water dispersible floor cleaners, soaps and all purpose cleaners, floor wax removers, aqueous degreasers, non-acid bowl cleaners, glass cleaners, liquid dish-washing compounds and rug shampoos.
- c i1. None of the chemicals listed on enclosure F were produced at our facility.
 - i2. None of the chemicals listed on enclosure F were processed at our facility.
 - i3. Isopropyl Alcohol; Ludox (Silica) were used in our manufacturing process.
 - ii1. Isopropyl Alcohol;
 - ii2. Silica
- d. Lamco Chemical Company began operation in 1949. For the next sixteen years it was solely a manufacturing facility, manufacturing products used in the janitorial field. After 1965, introduction of "janitorial supplies" helped our sales. Market influences also had an effect on sales. During the first sixteen years, floor wax coating were the norm. These products required daily maintenance, weekly application, and monthly removal. Our manufactured volume was significant. After 1965, floor finish coatings started to become the norm, requiring a once per year application, and a limited maintenance program. The only way to increase sales was to acquire more customers, or broaden the product line. Which was done by acquisition of a distributor of ours, and hiring

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sales people. Sales have reached a high of \$800,000 and dropped to the current number of less than \$195,000. The advent of mass marketers, mass distribution companies, and large manufacturing companies has also had grave effects on Lamco.

e. Manufactured and formulated water emulsion floor waxes, aqueous floor finishes and sealers, water dispersible floor cleaners, soaps and all purpose cleaners, floor wax removers, aqueous degreasers, non-acid bowl cleaners glass cleaners, liquid dish-washing compounds and rug shampoos. We also manufactured bases for internal use in our processes. See Exhibit A (Exhibit 1)

See Exhibit B (Exhibit 2)

f. Raw materials used:

325 - N -35, 43 - N -40, 371 - n -30. No CAS # available. Stopped using in 1980. All three are non-ionic water soluble wax emulsions.

Paraffin wax.

Ouricury.

Carnauba wax.

Micro-crystalline waxes.

Ozokorite.

Syntran #6150 - #1445 - #1465 (Interpolymer)

Ammonia, 26 BaumŒ CAS # 7664-41-7.

Stepanol BTC 2125 Quarternary ammonium compound.

(Chemical name: Myristalkonium Chloride & Quaternium 14)

No CAS # available.

Triton X-100 (9 mole non-ionic surfactant) CAS # 9016-45-9.

Liquid Caustic Potash (45%). CAS # 1310-58-3.

Chelon 100, EDTA. (Tetra sodium EDTA 50% solution. CAS # 64-02-8

Above also purchased under various other trade names:

HAMPENE - PERMA KLEER - MIDENE.

Di-Ethylene Glycol Mono Ethyl Ether. CAS # 111-90-0

Di-Ethylene Glycol Methyl Ether. CAS # 111-77-3

Di-Butyl Phthalate. CAS # 84-74-2

Aqueous acrylic emulsions:

Duraplus I (Rohm & Haas)

Rhoplex B-60A - B-85 - B-832 (Rohm & Haas)

DRP 62 - UL 2001 - U 3050 (Union Bay State Chemical)

SR 270 - A 234 U (Poly Vinyl)

Richamer R-272 (Richardson Co. Paterson NJ)

Product # 403 (Morton Chemical)

Syntran #1015 - # 1440 - #1272 - #1292 - #1295 - #1560.

(Syntran from Interpolymer Corporation)

Ethylene Glycol Mono Butyl Ether (EB). (CAS # 111-76-2).

Ethylene Glycol. CAS # 107-21-1

Groco 28 - Soya Fatty acid. (Stopped using in the 70s when company was sold and switched to Industrene 226.

Industrene 226 - Soya Fatty Acid. CAS # 671-08-0.

Isopropyl Alcohol. CAS # 67-63-0.

Monoethylamine CAS 75-04-7.

Mono Ethanolamine. CAS # 141-43-5.

N-Methyl Pyrrolidine. CAS # 872-50-4.

Ludox and Nyacol 1440. (Colloidial Silica solutions. Water soluable Anti-Slip Solutions used as anti-slip agents in Floor waxes. CAS # 7631-86-9.

Pamak 25A (Tall oil Fatty Acid). CAS # 8002-26-4.

Pine Oil. CAS # 8002-09-3.

Sodium Xylene Sulfonate (40%). CAS # 1300-72-7

Super Amide GR surfactant.

Tri-Ethanolamine 85%.CAS # 102-71-6.

Tri-Butoxy-Ethyl-Phosphate. (A plasticizer for floor finishes). CAS # 78-51-3.

Triton CF-10 surfactant. (Last purchased in 88. No CAS #.

Dyes from various sources.(Pound quantities)

Shellac and powdered resins for waxes and soaps.

Potash soap.

- g. i. As a manufacturer of water based cleaning products, all chemicals manufactured on site were water soluable, therefore in all our cleaning procedures we used water only. In the event of "Build-up" soiling, prolonged water soaking removed all soil. Mechanical agitation was employed if needed.
- g. i. 1. After kettle usage, all kettles were hosed down. The water was allowed to remain in the fill lines, and bottom of tank. Since this was a diluted form of product that we manufactured, we reused/recycled this residue. This diluted product was used as general cleaners for the company, soap for the washing out of "fat" drums, or in some cases sold as diluted form of our standard cleaners. Wax and finish kettles were drained completely with the same cleaning method as above. A trap was employed to collect wax residue, and cleaned as needed. Dried residue on kettles was removed.
 - ii. twenty gallons of water per month.
- h. i. Very little spillage occurred during our manufacturing and/or filling operations. If any, drippings occurred from the filling. It was either mopped up or soaked up with paper towels or rags. Wet floor areas were allowed to dry for safe passage. Wet rags were dried and disposed of in our trash containers. Paper towels were also disposed of in our trash barrels. Trash was picked up weekly by either the City of Boston, or the City of

Chelsea. See Spill Plan Exhibit 2.1

1984 copy of authorization to discharge sewage into the MDC sewerage system through the Chelsea sewerage system enclosed for your information. See Exhibit 6

- ii. Water was the material to clean up spills, as all of our finished products were water soluble. In case of a minor spillage of fatty acids, which are not water soluble, the floor area was wiped clean with rags or paper towels, which were then disposed of in our regular trash, and mopped with our diluted cleaner we manufactured.
- iii. Methods used for clean-up; paper towel blotting, absorbing rags blot ting, mop and bucket.
- 3. h. iv. Mopped up residue was treated the same as our floor cleaning residue and disposed of in the city sewer system. This residue was thoroughly diluted with water and did not present any hazards. Dried paper towels, or rags were disposed of in city trash collection

i. Schematic flow chart Exhibit 3

j. Carl Lamm, (dead), Bill Easton (dead), George L. Lamm, Joe
 Sampson (unknown), Frank Bassett, Peter Lamm (Dead), James Lamm
 Exhibit 4

4. a. Waste Survey Exhibit 5

b. The only waste generated by Lamco's manufacturing process during the timeframe (1950-1985) was a solid wax, not completely melted during the manufacturing process. This solid was captured by means of several strainers in the filling process, and a trap in the final cleaning process. Other spills were captured at the source, and absorbed with paper towels, or rags. Rags were washed and reused.

All finished products were put into drums, pails or jugs and generated no waste. Residue left on soap kettle walls were hosed down with water and reused (recycled) into next batch. Solid wax residues that clung to kettle walls after the manufacturing were physically collected and were disposed of in our regular trash. (Micro crystalline wax residue).

Massachusetts Industrial User Discharge Permit 11 000 612-1 See Exhibit: 6

iii. The approximate monthly volume of above residue, was less than one pound of wax and less than a gallon of soap residue from kettles.

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iv. dates of waste production would have been whenever we manufactured. No data exists.

- c. We did not collect or store any waste, except as noted in paragraph b. above, empty 55 gallon drums were stored in basement. Office and factory trash was stored in 55 gallon fiber drums, reused burlap wax bags, and plastic trash bags.
- d. Carl Lamm, George Lamm
- e. No such data exists as we never conducted surveys or studies.
- f. George L. Lamm
- 5. a. Carl Lamm, (dead), Bill Easton (dead), George L. Lamm, Joe Sampson (unknown), Frank Bassett living in Perry, ME, Peter Lamm (Dead), James Lamm
 - b. Carl Lamm, (dead), Bill Easton (dead), George L. Lamm, Joe Sampson (unknown), Frank Bassett living in Perry, ME, Peter Lamm (Dead), James Lamm
 - c. George L. Lamm, James Lamm
 - d. 1. Carl Lamm
 - i. President
 - ii. Responsible for all company operations.
 - iii. 1949 to 1961
 - iv. Board of Directors.
 - v. 1961
 - vi. Unknown.
 - d. 2. Bill Easton
 - i. Production Supervisor
 - ii. Responsible for production.
 - iii. 1949 to 1956
 - iv. Carl Lamm.
 - v. 1956
 - vi. Unknown.
 - d. 3. George Lamm
 - i. President 1961-1986
 - ii. Responsible for all company operations.
 - iii. 1953 to 2004
 - iv. Board of Directors.
 - v. Retired, Manufacturing part time
 - vi. Best Memory

- d. 4. Joe Sampson
 - i. Production Supervisor
 - ii. Responsible for production.
 - iii. 1956 to 1961
 - iv. 1961.
 - v. Unknown
 - vi. No knowledge.
- 5. d. 5.Frank Bassett
 - i. Production Supervisor
 - ii. Responsible for production.
 - iii. 1957 to 1999
 - iv. George Lamm, James Lamm.
 - v. 1999
 - vi. Unknown.
 - d. 6. Peter Lamm
 - i. Production assistant
 - ii. Helped in all phases of company operations.
 - iii. 1969 to 1974
 - iv. George Lamm.
 - v. Dead
 - vi. Unknown.
 - e. The following answers is how Lamco Chemical Company disposed of it's factory trash.
 - i. 55 gallon fiber drums.
 - ii. The color of these containers was beige or blue.
 - iii. The containers had no special markings.
 - iv. Most likely marking on outside of drum as to type of product that had been in the drum.
 - v. used
 - vi. The fiber drums that we used to dispose of our trash were 55 gallon drums that we used internally to fill the contents of bulk deliveries of raw material products. Once these drums became damaged during use, they were washed out (as in the normal course of manufacturing) and then filled with trash, including paper towels, rags, and other factory waste.

- f. No agreements or contracts were ever written, signed, or existed.
- g. Not applicable.
- 5. h. Trash was collected by the City of Boston, and the City of Chelsea. Junk empty barrels were disposed of in several ways. Some were given away to companies that reused them for there own needs (local junk yards, motor company), others were returned to the drum company supplying us barrels at the time of delivery.
 - i. City of Boston, City of Chelsea, AGN Container Company, Uxbridge, MA. (Purchased both reconditioned and new drums), Chelsea Drum Company, Franklin, MA. John Clark Company, Cambridge, MA, Kingston Steel Drum Company, So. Kingston, NH, Ross Barrel, Somerville, MA, Woburn Steel Drum Company, Woburn, MA. (We purchased both new and reconditioned drums), Ryan Barrel, Malden, Massachusetts. As well as others.
 - j. We did not transport any waste from our premises.
 - k. City of Boston and City of Chelsea.
 - 1. Once per week, our regular trash pick-up.
 - m. two to three 55 gallon fiber drums, burlap bags that had contained wax, or plastic bags filled with office waste and factory trash.
 - n. Picked up weekly.
 - o. None available.
 - p. Unknown.
 - q. Unknown.
 - r. No documents were ever issued.
 - s. We did not dispose of regulated or toxic waste nor any raw material concentrates, therefore all waste generated by Lamco was disposed of in the usual weekly trash pick up.
 - i. Did not inventory
 - ii. Did not request waste to be picked up
 - iii. City of Boston, City of Chelsea
 - iv No additional charge
 - v. George L. Lamm.

vi. George L. Lamm

- 5. t. None
 - u. To the best of our knowledge. As stated earlier, all records that may have been kept, were lost due to floods. No records exist.
 - v. George Lamm Frank Bassett.
- 6. a.-g. For the period in question we have no RCRA Identification numbers, due to the fact that our manufacturing volume was too small and thus were never required to file the necessary reports. The only data we have on this subject, is an internal memo, dated February 1, 1978, Subject: Toxic Substance Control Act, Inventory reporting.

Exhibit: 7

Also a second internal memo on the above subject dated

February 22, 1978.

Exhibit: 8

See EPA Disinfectant Reports Exhibit 9

7. This portion of the report was authored by George Lamm since he has first hand knowledge of these events.

To the best of my recollection, our first contact with Whitney Barrel was with Jack Whitney Sr., who was recommended to me by a company in Quincy Massachusetts with whom I had placed an order for the fabrication of a two part, eight hundred gallon stainless steel mixing kettle. Because of the tank's size, a specialist was needed to transport same and assist us in setting up and installing this tank in Boston. Jack Whitney Sr. performed this work in the early sixties. (I believe it was 1962, but am not exactly sure of the time or year).

In 1965, Jack Whitney Sr. once again assisted us in our move from 33 Commercial Wharf in Boston to our present location in Chelsea, Massachusetts, by dismantling and moving boilers, kettles, large motors and other equipment and by helping us to put these huge items into place. It was a "rigging" operation. Unfortunately after so many years and because of the Chelsea Fire of 1973 and severe storms of 1985, no documents are available. After our move to Chelsea we continued to do business with Whitney Barrel by purchasing various pieces of equipment. To the best of my recollection, Lamco purchased several one hundred gallon stainless steel mixing kettles, several electric mixing motors, motor mounts for these mixers, stainless steel shafts and mixing propellers, two stainless steel internal heating coils, suitable for high pressure steam, as well as a 250 gallon stainless steel storage tank. Jack Whitney Sr. also sold us and assisted with the installation of five very large stainless steel storage vessels, each with a 900

gallon capacity. (two compartments of 450 gallons each). These were set up in our basement and required extensive rigging.

The drum business we did with Whitney Barrel was very limited. Whitney Barrel was one of many drum reconditioners in a highly competitive market and we switched our drum suppliers often. Regarding any drums that might have been sent to Whitney Barrel they were extremely few in number. The usual practice among the trade required the collection of at least twenty-five dirty barrels before a company even considered to pick them up for reconditioning. Since we were never able to collect that many we arranged with any of the reconditioners from whom we ordered reconditioned drums to pick up whatever used drums we had on our premises, usually no more than one or two and they were given to these companies. Completely useless drums (for us), such as drums with punched in holes, after cleaning, were given to local junk dealers who cut the top off and used them to fill them with metal junk pieces.

Fiber drums were either used internally, given to our neighbor, The New England Electric Motor Company, both in our Boston (10 Commercial Wharf) as well as our Chelsea location (214 Arlington Street), or were used for our own disposal of trash and waste.

Regarding any possible residue that might have been contained in any of the drums that we gave to the drum reconditioners there was none. No raw material barrels were ever given to a reconditioner because these barrels were in very good condition and we could easily reuse them. In our manufacturing process, it was common practice to wash out the drum to remove any residue that remained to be added to the batch we were making. I must point out that our products were biodegradable and contained no harmful chemicals. As a result, the minor content of any of these drums could never contribute to a hazardous site, since they were harmless and friendly to the environment. It should also be noted, that other then the possible purchasing of the equipment and items referred to above, we stopped all purchases with Whitney Barrel, shortly after Jack Whitney Sr.'s death in 1972.

Lamco Chemical Company utilized many barrel companies during the time period under investigation. They include AGN Container Company, Uxbridge, MA. (Purchased both reconditioned and new drums), Chelsea Drum Company, Franklin, MA. John Clark Company, Cambridge, MA, Kingston Steel Drum Company, So. Kingston, NH, Ross Barrel, Somerville, MA, Woburn Steel Drum Company, Woburn, MA.(We purchased both new and reconditioned drums), Ryan Barrel, Malden, Massachusetts. Reliable Steel Drum, Milford CT, and Independent Packaging, Waltham, MA. As well as others.

The following answers are given as a guide line of our usual business practice. Any drum business that we may or may not have done with Whitney Barrel is undocumented by us. As stated above, we used many suppliers, Whitney may have been one, but they were definitely not a major supplier. Our best guess for purchases from

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barrel companies would be two - three times per year from any one of the suppliers listed above. The usual number of barrels ordered was 25, and Lamco always ordered the minimums.

- 7. a. Our business with Whitney Barrel was the purchasing of tanks, motors, rigging, and very little barrel business from 1965 1972 as described more fully above.
 - i. If we used Whitney Barrel Company, they would have delivered their drums to Lamco. We did not have company trucks.
 We do not have any records of any purchases from Whitney Barrel Company that we could document.
 - ii. Lamco purchased from recyclers, closed head metal drums.
 - iii. The sizes used were fifty-five and thirty gallon drums.
 - iv. All used containers purchased from any source were received clean, painted and ready to be filled, or they would have been returned to the company.
 - v. All drums received from re-conditioners were clean inside and free from any residue, or otherwise would have been returned.
 - vi. No documentation available.
 - c. Absolute no
 - d. i. We never sold, sent out to be cleaned or reconditioned any barrel. Any supplier we used was given the "junk" drum, or the drums we could not clean on our own, useless to us.
 - ii. Lamco purchased from recyclers, closed head metal drums.
 - iii. The sizes used were fifty-five and thirty gallon drums.
 - iv. All used containers purchased from any source were received clean, painted and ready to be filled, or they would have been returned to the company.
 - v. 1. It was our company policy to wash out all recycled Lamco finished product drums before filling. All raw material drums were used as is per our comp ability factor. If after washing, the drum was damaged, we would try to repair the damage so we could use it. If we could not repair it, or there were obvious physical defect, is was marked "junk" and given

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away to the many local junk yards, or sent back to a recycler. There were three classes of returned drums that any reconditioner received from Lamco.

7. v.1. The first class of returned drum was a drum that we could not clean effectively by our methods. These drums are in two categories. First, those that contained finished products manufactured by Lamco Chemical Company that had been stored for several months by our customers without the bungs sealing the container. As a result of this action, the product that was in the drum solidified.

The second type and only type of drum that was returned because it was very difficult to remove the residue from the drum, and the raw residue was not compatible with our finished products. That product was tall oil fatty acid (CAS #8002-26-4 No Hazardous ingredients as outlined under section II of the MSDS)

The second class of drum returned to a drum reconditioner was a "defective drum". This included lined barrels that had lining failure, rusty insides, dented, crushed, cut, punctured, or any defect that did not allow us to utilize the drum ourselves. These drums did not contain any residue. (Lined drums had to be cleaned to determine if the lining was defective, drums that had holes in them were done by customers to drain the 100% of the contents, or to remove rainwater when drums were stored outside.) These drums were also picked up by the many local scrap yards that surrounded our company prior to the Chelsea fire in 1973.

The third class of returned drum to a reconditioner was an unusable drum for the purpose of sending out finished product to our customers. These drums included all open head barrels. These barrels were used internally by Lamco for the repackaging of bulk solutions that we received. After many uses, some of these drums became defective.

Our best guess would be 4 drums per year. The previous product stored in these drums was Soya Fatty Acid (CAS # 67701-08-0 No Hazardous ingredients as outlined under section II of the MSDS). These drums were cleaned before they were determined to be defective.

v. (a.)1. Soya Fatty AcidCAS # 67701-08-0 No Hazardous ingredients as outlined under section II of the MSDS) (a.)2. Tall oil fatty acid CAS #8002-26-4 No Hazardous ingredients as outlined under section II of the MSDS (a.)3. Lamco manufactured floor waxes No Hazardous ingredients as outlined under section II of the MSDS)

At no time did any drums returned to a recycler contained any raw materials, or hazardous materials as outline on enclosure F.

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- 7. v. b. Fatty Acid
 - c. Drum was empty, the product was a liquid.
 - d. Drum was empty, the product in barrel was turned upside down, and allowed to drain before it was given to any recycler.
 - vi. No documentation exists.

Once again, no documents are available and the amount of these drums turned over to Whitney Barrel and other reconditioning companies, were no more then about ten to twelve drums per year.

- e1. i. Transportation and set-up of a two part, eight hundred gallon stainless steel mixing kettle.
 - ii. Once
 - iii. +/- 1962
 - iv. No documentation exists.
- e2. i. Rigging and moving the heavy equipment from 33 Commercial Wharf Boston, MA to 212 Arlington Street Chelsea, MA.
 - ii. Once
 - iii. +/- 1965
 - iv. No documentation exists.
- 7. e3. i. Sold and installed five 900 gallon tanks.
 - ii. Once
 - iii. +/- 1970
 - iv. No documentation exists.
- e. Over the years, we purchased several other mixing motors, shafts, heating coils, and other related supplies for our company. See the opening statement for answer # 7 on page ten.
- 7. f. No.
 - g. Not applicable.

- h. Not applicable.
- i. Not applicable.
- 8. a. We have no knowledge about others regarding Whitney Barrel.
 - b. none
 - c. none
- 9. a. i. George L. Lamm, James G. Lamm
 - ii. James G. Lamm President,George Lamm retired, working part time manufacturing.
 - iii. George Lamm factory worker to president James Lamm sales
 - iv. No past employees were contacted.
 - v. All records were reviewed, we have no divisions or other branches.
 - vi. Old formulas, information contained in MSDS sheets, telephone records, purchasing records, receiving records, manufacturing records.
 - vii. Location of documents is on second floor of 212 Arlington Street.
 - viii. Same.

WELLS G & H

ENCLOSURE H - DECLARATION

I declare under penalty of perjury that I am authorized to

respond on behalf of	and that the
Respondent	
foregoing is complete, true, and correct.	
Executed on, 2	Signature James Lamm Type Name President Title [if any]

Material Safety Data Street May be used to comply with OSHA's Hazard Communication Sta 29 CFR 1910 1200 Standard must consulted for specific requirements	Occu ndard, (Non be Forr			SHIGH SHIGH SMODERATE MA I RLIGHT DI INSTRUCTION VI	A(I)
(Floor Finish)	"INSTANT	GLOSS"	Note: Blank spaces are not po information is available.	ermitted if any item is not the space must be marked	applicable or no
Section I					
Manufacturer's Name LAHCO CHEMI	CAL CO.	INC.,	Emergency Telephone Number	(617) 884-	847()*
Address (Number, Street, City, State, and			Telephone Number for Inform		
212 Arlingt		· ·	* OR LOCAL POISON Date Prepared May 9,		
CHELSEA, HA	02150	·	Liay 7,	/	<i>f</i>
			Signature of Preparer (optiona	" OSeage	C Clas
Section II — Hazardous Ingredi	ents/Identit	y Information			
Hazardous Components (Specific Chemic	al Identity, Cor	mmon Name(s))	DSHA PEL ACGIH T	Other Limits LV Recommended	% (optional)
COMPONENTS OF THIS PODUCT	ARE NOT	CLASSIFIED	HAZARDOUS BY NATURE	OR CONCENTRATIO	N.
Section III — Physical/Chemica	al Character	ristics	Specific Gravity (H ₂ O = 1)		
Boiling Point		212 }			1.02
Vapor Pressure (min Hg)		ca. water	Melting Point		N.A.
Vapor Density (AIR - 1)		ca. water	Evaporation Rate \$1 owe	er than ether	
Solubility in Water col	nplete	-,I			
Appearance and Odor	lky white	liquid - m	nild acrylic odor	pli 8 -	9
Section IV - Fire and Explosion	on Hazard L	Data			
Flash Point (Method Used) TCC - Not	ne to boi	ling 210°F+	Flammable Limits None determined	LEL N.A.	UEL N.A.
Extinguishing Media Wal	er	·			
Special Fire Fighling Procedures Ros	16				
Unusual Fire and Explosion Hazards		· · · · · · · · · · · · · · · · · · ·			•
Haterial can splatte	r above	100°C/212°F	· Polymer film can	burn.	* ** *********************************
Disclaimer of Liability As conditions or methods bilities and expressly di contained herein is based	sclaim an	v liabilit	y for use of the	material. The	iniormation

However, we make no warranty, expressed or implied regarding the accuracy of these

data or the results to be obtained from the use thereof.

EHIBIT "A"

(Reproduce locally)

OSHA 174 Sept 1985 modified

HAZARD RATING

Section V -	Reactivity Data)							— \
Stability	Unstable	T	Conditions to Avoid				·		
	Stable	X	Do not mix	with a	nything	but water			
Incompatibilit	y (Materials to Avoid)	ــــــ	Concentrated or	strong	oxidizi	ng agents		•	
Hazardous Dec	composition or Byprodu	ucts	None known						
Hazardous	May Occur	Ī	Conditions to Avoid						
Polymerization	Will Not Occur	$\frac{1}{x}$	N.A.				· 		
Section VI	- Health Hazard		N.N.	<u> </u>			· · · · · · · · · · · · · · · · · · ·		
Route,s) of Enti		ation?	X	Brib3	х		Ingestion?	Х	—
Health Hazards	(Acute and Chronic)		cute: May cause i	nausea		dache in	TATE CASE		
			hronic: No chroni						_
									—
Carcinogericity	NTF	, No		IARC Mo	nographs? N	lo	OSHA Reg	ulated? No	_
Signs and Sym	iploms of Exposure	ould	cause nausea and	/or he	adache 1	n tare ca	ises. If	snlashed into	
would caus			Could be irritat						
Media Conditi			None known		F				
OF IE a , Age a	itales by Expession		TONC KNOWN	***					
Section VII	— Precautions fo	r Safe	Handling and Use	ctator	s away,	floor ma	y be slip	pery. SMALL	SPILL
			separate contain				with in	ert material	. (58)
ollect the	compry r disposal, di p product with	lute the	all local, stat material with la aid of inert mat	rge an erial	ounts of	water p	rior to	disposal. Otl	
Precautions to B	se Taken in Handling a	na Stor	ng Land/re Other Precau	tions)	- 				
nep contai	iners closed w	hen r	ot in use. KEEP (OUT OF	REACH O	F CHILDRI	EN		
	- Control Measu								
lespiratory Prote	ction (Specify Type) N	one r	equired if good	and no	rmal ven	tilation	is maint	ained.	
/entitation	Local Exhaust N.A	•			Special N.	Α.			
	Mechanica' (General)	Adamı	ate		Other N.	A.			
rolective Gloves	Normally not	reau	ired	Eye Pi	Machon	commended	··-	<u> </u>	
	Clothing or Equipment	- 1-		<u></u>			-		
NorkH, gienic Pr	ractices _		Normally not						
· -	Good	1 hou	sekeeping practio	es ap	oly.				

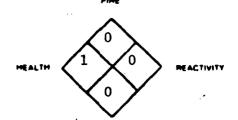
2

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

HAZARD RATING

- 4 = EXTREME
- 3 1434
- 2 * MODERATE
- 0 = INSIGNIFICANT



SECTION I

MANUFACTURER'S NAME

LAMCO CHEMICAL COMPANY, INC.

ADDRESS (Number, Street, City, State, and ZIP Code)
212 Arlington Street, Chelsea, MA 02150

CHEMICAL NAME AND SYNONYMS
aqueous floor finish emulsion

CHEMICAL FAMILY
anionic emulsion

SECTION I

EMERGENCY TELEPHONE NO.

(617) 884-8470

TRADE NAME AND SYNONYMS
Lamco Super Gloss

FORMULA

PAINTS, PRESERVATIVES, & SOLVENTS	×	TLV (Units)	ALLOYS AND METALLIC COATINGS	×	TLV (Units)
PIGMENTS			BASE METAL		,
CATALYST			ALLOYS		,
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					:
HAZARDOUS MIXTURE	s of c	THER LI	DUIDS, SOLIDS, OR GASES	*	TLV (esinU)
Diethylene Glycol Methyl Ether	CAS	<u></u> 4111_7	7_3 /	25	
Diethylene Glycol rechyl Ether	CND	TTTT=/	7-3 4	. 25	not estab

SECTION III - PHYSICAL DATA				
BOILING POINT (°F.)		212	SPECIFIC GRAVITY (H2O=1)	1.022
VAPOR PRESSURE (mm Hg.)	······································	water	PERCENT, VOLATILE BY VOLUME (%)	81.5
VAPOR DENSITY (AIR-1)	····	water	EVAPORATION RATE 810W	er than ether
SOLUBILITY IN WATER		complete		9.1
APPEARANCE AND ODOR MIT	ky white	liquid	odor pleasant.	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA						
none to boiling wountagoologed Cup	FLAMMABLE-LIMITS	Lei .	Uel			
EXTINGUISHING MEDIA						
SPECIAL FIRE FIGHTING PROCEDURES no special requirements						
the state of the same of the s						
UNUSUAL FIRE AND EXPLOSION HAZARDS						

SECTION V - HEALTH HAZARD DATA							
THRESHOLD LIMIT VALUE See Section II							
EFFECTS OF OVEREXPOSURE							
Eyes: Direct contact may cause irritation.							
EMERGENCY AND EIGET AID BROCEDURE							
Eyes: Flush with water. If irritation persists, call physician. Ingestion	::						
Induce vomiting, get medical attention.							

SECTION VI - PEACTIVITY DATA								
STABILITY	UN	STABLE		CONDITIO	CONDITIONS TO AVOID			
STABLE		Х						
INCOMPATABIL	ITY (Met	erials to evoid)						
HAZARDOUS D	ECOMPOS	ITION PRODL	JCTS					
HAZARDOUS		MAY OCCU	JR		CONDITIONS TO AVGID			
POLYMERIZATION WILL NOT		OCCUR	Х					

SECTION VII - SPILL OR LEAK PROCEDURES							
Dike and absorb spill with inert material (sand, sawdust) and transfer to con-							
tainers for discard, if not able to mop up initially.							
WASTE DISPOSAL METHOD. If material is diluted with water, flush to sewer if local ordinance permits.							
Otherwise use sanitary land fill approved by local, state and federal authorities							
as a disposal site.							

	SECTION VIII - SPECIAL PROTECTION INFORMATION							
RESPIRATORY PI	ROTECTION (Specify type)							
VENTILATION	LOCAL EXHAUST		SPECIAL.					
	MECHANICAL (General)		OTHER					
PROTECTIVE GLO	OVES	EYE PROTECTION	Y					
OTHER PROTECT no special	IVE EQUIPMENT requirements							

SECTION IX - SPECIAL PRECAUTIONS						
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING						
none						
OTHER PRECAUTIONS						

Disclaimer of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

3

Material Safe	y Data Sheet
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consulted for specific requirements

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be

U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form)

Form Approved
OMB No 1218-0072

HAZARD RATING FIRE
4-EXTREME
3-HIGH
2-MODERATE MEALTH 1
0-INSIGNIFICANT
0-SEE SECTION VI

IDENTITY (As Used on Label and List)
LAMCO "LLL" (Triple "L") FLOOR FINISH Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that Section I Manufacturer's Name **Emergency Telephone Number** (617) 884-8470 LAMOO CHEMICAL COMPANY, INC., Address (Number, Street, City, State, and ZIP Code) Telephone Number for Information (617) 884-8470 Date Prepared 212 Arlington Street June 29, 1987 Signature of Preparer (optional) CHELSEA, MA 02150 Section II — Hazardous Ingredients/Identity Information Other Limits Hazardous Components (Specific Chemical Identity: Common Name(s)) OSHA PEL **ACGIH TLV** Recommended % (optional) COMPONENTS NOT CLASSIFIED HAZARDOUS BY NATURE OR CONCENTRATION Section III - Physical/Chemical Characteristics **Boiling Point** 212 Specific Gravity (H₂O = 1) 1.04 Vapor Pressure (mm Hg.) Melting Point ca. water N.A. Vapor Density (AIR = 1) Evaporation Rate slower than ether ca. water (Butyl Acetate = 1) Solubility in Water complete Appearance and Odor pH 8 - 9 Milky white liquid - mild acrylic odor Section IV — Fire and Explosion Hazard Data Flash Point (Method Used) TCC Flammable Limits UEL None to boiling 210°F+ N.A. N.A. None determined Extinguishing Media Water Special Fire Fighting Procedures None Unusual Fire and Explosion Hazards Material can splatter above 100°C/212°F. Polymer film can burn.

Disclaimer of Liability

As conditions or methods of use are beyond our control, we do not assume any responsibilities and expressly disclaim any liability for use of the material. The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Unstable Conclores to Anco Stable X Do not mix with anything but water	Section V -	- Reactivity Data							
Incompatibility (Materies to Avoid Concentrated or strong oxidizing agents Majora Concentrated or strong oxidizing agents	Stability	Unstable		Conditions to Avoid					
Name		Stable	Х	Do not mix w	ith a	nything	but water		
Hazardous Poymerazion May Occur Condisions to Avoid N.A. Section VI — Health Hazard Data Routes of Data Routes of Routes Routes of Route	Incompatibility	(Materials to Avoid)	<u></u>	Concentrated or s	trong	oxidiz	ing agents		
Section VI — Health Mazard Data Route, Solicion VI — Health Mazard Data Route, Solicion VI — Mealth Mazard Data Route, Solicion VI — Mealth Mazard Data Route, Solicion VI — Mealth Mazard Data Route, May cause nausea or headache in rare cases. Chronic: No chronic data presently available. Carthogenes, No ARE Monographs No OSHA Regulated No Sha Regulated N	Hazardous Deco	imposition or Byprodu	cts	None known					
Section VI — Health Mazard Data Roues; of Enty Image: The Mazard Data Roues; of Enty Image: The Mazard Data Roues; of Enty Image: The Mazard Data Roues; of Enty Image: The Mazard Roues; of Enty Acute: May cause nausea or headache in rare cases. Chronic: No chronic data presently available. Caronogenon, NTP) No IMEC Monographs? No OSHA Regulated? No Signs and Symptoms of Exposure Could cause nausea and/or headache in rare cases. If splashed into eyes would cause eye irritation. Could be irritating to skin upon repeated and prolonged contact. Media Corologic Media Corologic Media Corologic Media Corologic None known Energent, and First Act Procedures None Tracket of the procedures None the Act Procedures Normally not needed Normally not needed Normally not needed Normally not needed		May Occur		T	·		·		
Section VI — Health Hazard Data Rouse, of Eury inhaustor? X Sun? X Ingestion? X Hearn Hazards (Acute and Chrono): Acute: May cause nausea or headache in rare cases. Chronic: No chronic data presently available. Cerumogenics, NTF? No MARC Monographs? No OSHA Regulated? No Signs and Symptoms of Exposure Could cause nausea and/or headache in rare cases. If splashed into eyes would cause eye irritation. Could be irritating to skin upon repeated and prolonged contact. Medical Controls Genes, Aggranate b, Exposure None known Emergent, and Firs Ad Procesures INHALATION: Move subject to firesh air. EYE and SKIN contact: Plush eyes with large amounts of water for at least 15 minutes. If irritation persists get medical attention. Skin: wash affected areas with soap and water. INGESTION: Administer acter or milk to dilute. GET IMMEDIATE MEDICAL ATTENTION. Section VII — Precautions for Safe Handling and Use Sieps in Be Taven in Case Maxeria is Receased or Spined Keep spectators away, floor may be slipperly. SMALL SPILLS: dop up or wet vacuum; let area dry. LARGE SPILLS: Dike and contain with inert material (sand ratch, etc.) and transfer to separate containers for disposal. Wasse Duposal Memod Comply with all local, state and federal regulations. If local ordinances allow sewer disposal, dilute material with large amounts of water prior to disposal. Otherwise collect the product with the aid of inert material and dispose of in approved sites or landfill Precautions to Be Taven in Handling and Storing (ens/ra, Other Precautions) Geep containers closed when not in use. KEEP OUT OF REACH OF CHILDREN Section VIII — Control Measures Respiratory Protection (Specty, Typer, None required if good and normal ventilation is maintained. Vermitation Local Erabusti N.A. Special N.A. Other N.A. Done Potective Coding or Ecopoment Normally not needed	Polymerization	Will Not Occur							
Rouse, of Entry Inhabitor? X Sun? X ingestion? X Hearth Mazards (Acute and Chronic) Acute: May cause nausea or headache in rare cases. Chronic: No chronic data presently available. Carchogenich, NTP' No MARC Monographs? No OSMA Regulater? No Signs and Symptoms of Exposure Could cause nausea and/or headache in rare cases. If splashed into eyes would cause eye irritation. Could be irritating to skin upon repeated and prolonged contact. Mesca Concloses Genera, Appraiser b, Exposure None known Emergens, and Firs Ad Procesures Inhalation: Move subject to fresh air. EYE and SKIN contact: Plush eyes with large amounts of water for at least 15 minutes. If irritation persists get redical attention. Skin: wash affected areas with soap and water. INGESTION: Administer water or milk to dilute. GET IMMEDIATE MEDICAL ATTENTION. Section VII — Precautions for Sale Mandling and Use Sieps its Taken Case Mark is Remasted to Spiece Keep spectators away, floor may be slippery. SMALL SPILLS: Open or wer vacuum; is Remasted by Spiece Keep spectators away, floor may be slippery. SMALL SPILLS: Dop up or wer vacuum; is Remasted by Spiece Keep spectators away, floor may be slippery. SMALL SPILLS: Dop up or wer vacuum; is Remasted by Spiece Keep spectators away, floor may be slippery. SMALL SPILLS: Disput the trace of the special form of the	C4: 1/1	Manufacture Manuard	<u>' </u>	N.A.					
A Cute: May cause nausea or headache in rare cases. Chronic: No chronic data presently available. Chronic: No chronic data presently available. Chronic: No chronic data presently available. Carinogenic: NTEP No IARC Monographs? No OSMA Regulated? No Signs and Symptoms of Exposure Could cause nausea and/or headache in rare cases. If splashed into eyes would cause eye irritation. Could be irritating to skin upon repeated and prolonged contact. Medica Conclusions Medica Conclusions Medica Conclusions Medica Conclusions None known Medica data trention. Skin: wash affected areas with soap and water. INGESTION: Administer water or milk to dilute. GET 1MMEDIATE MEDICAL ATTENTION. Section VII — Precautions for Safe Handling and Use Shops to Be Taken in Case Maser at Sheeased or Spiles Keep spectators away, floor may be slippery. SMALL SPILLS: floop up or wet vacuum; let area dry. LARGE SPILLS: Dike and contain with inert material (sane sarth, etc.) and transfer to separate containers for disposal. Massio Daposal Method Comply with all local, state and federal regulations. If local ordinances allow sever disposal, dilute material with large amounts of water prior to disposal. Otherwise collect the product with the aid of inert material and dispose of in approved sites or landfill Precautions to Be Taken in Handling and Storing (ans/Arg. Oner Precautions) Geop containers closed when not in use. KEEP OUT OF REACH OF CHILDREN Section VIII — Control Measures Respiratory Protection (Specery Type) None required if good and normal ventilation is maintained. Mechanica' (General) Adaquate Normally not needed Normally not needed					Skin?			Incestion?	
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Emergens, and First Aid Procedures Inhalation: Move subject to fresh air. EYE and SKIN contact: Flush eyes with large amounts of water for at least 15 minutes. If irritation persists get medical attention. Skin: wash affected areas with soap and water. INGESTION: Administer water or milk to dilute. GET INMEDIATE MEDICAL ATTENTION. Section VII — Precautions for Safe Handling and Use Steps to Be Taken in Case Materia is Reveased or Spined Keep spectators away, floor may be slippery. SMALL SPILLS: dop up or wet vacuum; let area dry. LARGE SPILLS: Dike and contain with inert material (sand earth, etc.) and transfer to separate containers for disposal. Wasse Dasposal Method Comply with all local, state and federal regulations. If local ordinances allow sewer disposal, dilute material with large amounts of water prior to disposal. Otherwise collect the product with the aid of inert material and dispose of in approved sites or landfill Precautions to Be Taken in Handling and Storing (analytic Cine Precautions) Geep containers closed when not in use. KEEP OUT OF REACH OF CHILDREN Section VIII — Control Measures Respiratory Protection (Specify Type) None required if good and normal ventilation is maintained. Ventuation Local Exhaust N.A. Special N.A. Mechanical (General) Adaquate Other Protective Ciothing or Equipment Normally not needed Normally not needed	would caus	e eye irritat	ion.	Could be irritati	ing to	skin u	upon repeat	ed and prolonged cont	act.
Emergent, and First Aid Procedures INHALATION: Move subject to fresh air. EYE and SKIN contact: Flush eyes with large amounts of water for at least 15 minutes. If irritation persists get medical attention. Skin: wash affected areas with soap and water. INGESTION: Administer water or milk to dilute. GET IMMEDIATE MEDICAL ATTENTION. Section VII — Precautions for Safe Handling and Use Steps to Be Taken in Case Materia is Released or Spiled Keep spectators away, floor may be slippery. SMALL SPILLS: dop up or wet vacuum; let area dry. LARGE SPILLS: Dike and contain with inert material (sand earth, etc.) and transfer to separate containers for disposal. Wasser Disposal Method Comply with all local, state and federal regulations. If local ordinances allow sewer disposal, dilute material with large amounts of water prior to disposal. Otherwise collect the product with the aid of inert material and dispose of in approved sites or landfill Precautions to Be Taken in Handling and Storing (ans/re Other Precautions) Keep containers closed when not in use. KEEP OUT OF REACH OF CHILDREN Section VIII — Control Measures Respiratory Protection (Specify Type) None required if good and normal ventilation is maintained. Ventilation Local Exhaust N.A. Special N.A. Mechanical (General) Adaquate Protective Gioves Normally not needed Normally not needed				None known		·			
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Respiratory Protection (Specify Type) None required if good and normal ventilation is maintained. Ventilation Local Exhaust N.A. Mechanica! (General) Adaquate Protective Gloves Normally not required Normally not needed Normally not needed Work/Hypienic Practices	Section VII - Steps to Be Take Mop up or wearth, etc. Waste Disposal Mallow sewer collect the	Precautions for in Case Materia is set vacuum; le) and transfe dethod Comply with disposal, diproduct with	GET r Safe Releas t ar r to vith lute the	IMMEDIATE MEDICAL e Handling and Use ed or Spilled Keep spece ea dry. LARGE SPIL separate contains all local, state material with lan aid of inert mate	ctator LLS: I ers for e and rge an erial	es away Dike and or disposed federa mounts of and dis	, floor may do contain osal. al regulation water propose of in	be slippery. SMALL Swith inert material ions. If local ordifor to disposal. Other approved sites or la	SPILLS: (sand
Ventulation Local Exhaust N.A. Mechanica: (General) Adaquate Protective Gloves Normally not required Normally not needed Normally not needed Normally not needed									_
Mechanica! (General) Adaquate Protective Gloves Normally not required Dither Protective Ciothing or Equipment Normally not needed Work/Hygienic Practices				required if good a	and no	rmal ve	entilation	is maintained.	
Protective Gloves Normally not required Eye Protection recommended Dither Protective Ciothing or Equipment Normally not needed Work/Hygienic Practices							N.A.		
Protective Gloves Normally not required Eye Protection recommended Dither Protective Ciothing or Equipment Normally not needed Work/Hygienic Practices		Mechanica! (General)	Adaqı	uate			N.A		
Other Protective Cipthing or Equipment Normally not needed Work/Hygienic Practices	Protective Gloves	Normally not	requ	ired	Eye Pi	otection	ecommended		
Work/Hygienic Practices					needa	d		······································	
	Work/Hygienic Pri	ctices	l hai						_

Material Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard, (Non-Mandatory Form) 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration

OMB No 1218-0072

Form Approved

HAZARD RATING FIEL 4-EXTREME
3-HIGH
2-MODERATE M
1-S. IGHT
0-INSIGNIFICANT
--SEE SECTION 'V o

IDENTITY (As Used on Label and List) LAMCO "LLL" SPRAY	BUFF SOLUTION	Note Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.				
Section I						
Manufacturer's Name LAMOO CHEMICA	L COMPANY, INC.,	Emergency Telephone Number (617) 884–8470				
Address (Number, Street, City, State, and	ZIP Code)	Telephone Number for Information	(617) 884–8470			
212 Arlington	Street	Date Prepared June 29, 19	987			
CHELSEA, MA O	2150		Leope Q	Clean		
Section II — Hazardous Ingredie	ents/Identity Information		7			
Hazardous Components (Specific Chemica	al Identity; Common Name(s))	OSHA PEL ACGIH TLV	Other Limits Recommended	% (optional)		
COM	PONENTS NOT CLASSIF	IED HAZARDOUS BY NATURE	OR CONCENTRA	TION		
Section III — Physical/Chemical	Characteristics	·				
Boiling Point	212° F	Specific Gravity (H ₂ O = 1)		1.01		
Vapor Pressure (mm Hg.)	ca. water	Melting Point		N.A.		
Vapor Density (AIR = 1)	ca. water	Evaporation Rate slower the (Butyl Acetate = 1)	nan ether			
Solubility in Water com	plete					
Appearance and Odor Mil	ky white liquid — m	nild acrylic odor	рн 8 — 9)		
Section IV — Fire and Explosion	n Hazard Data					
Flash Point (Method Used) TCC - Non-	e to boiling 210°F+	Flammable Limits None determined	LEL N.A.	N.A.		
Extinguishing Media Wat	er					
Special Fire Fighting Procedures Non-	e					
Unusual Fire and Explosion Hazards						
Material can splatte	r above 100°C/212°F	. Polymer film can but	rn.			

Disclaimer of Liability

As conditions or methods of use are beyond our control, we do not assume any responsibilities and expressly disclaim any liability for use of the material. The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Section V —	Unstable Unstable		Conditions to Avoid			 -	- · · · · · · · · · · · · · · · · · · ·			
	Stable	X,	Do not mix v	with any	thing b	ıt wateı				
Incompatibility (Materials to Avoid)		Concentrated or					er Andre		
Hazardous Decor	nposition or Byprodu	cts	None known			984 (19)	··	/re 187		
Hazardous Polymerization	May Occur		Conditions to Avoid		14.	न्या १८७ स			>	•
v olymera.	Will Not Occur	.X-	N.A.	<u> </u>	· - 1-1	er e	1		1.	
Section VI	Health Hazard		*	43	*		**************************************			•
Route(s) of Entry	Inha:	ation?	X	Skin?	Χ.,	Section 18	ingestion	n ² X	. :	•
	Acute and Chronici		cute: May cause r		or heada	che in	rare ca			•
	· · · · · · · · · · · · · · · · · · ·	C	hronic: No chroni					**		•
										,
Carcinogenicity	NTF	No		IARC Mono	graphs? No)	OSHA F	Regulated	No	•
Signs and Sympt	oms of Exposure	ould	cause nausea and	or head	lache in	rare c	ases. If	fspla	shed into e	- zes
would cause			Could be irritat							_
Medita Condition General, Aggrava	ıs		None known				-			
Ot to y vige zit	<u> </u>					· · · · · · · · · · · · · · · · · · ·				•
Emergent, and-F	irs: Aid Procedures	TNHA	LATION: Move subj	ect to	Frack ni	- EVE	and CVI	N7		-
Flush eves v	wirh large aπ	חוות	s of water for	at leas:	r 15 mi	T. CIE	Tf irr	N CONT	act:	20.
medical att	ention. Skin	: W	sh affected are	ac leas	soap	and wa			on persists [ON: Admini	
			IMMEDIATE MEDICA				of the control of the	-, -, - ,		
			Handling and Use				St. St.	** *		_
Steps to Be Taker	n in Case Materia Is	Reieas	ed or Spilied Keep spe	ctators	away, f	loor ma	y be sl	ippery	. SMALL SPI	LLS:
Mop up or we	et vacuum; le	t ar	ea dry LARGE SPI	LLS: Dil	ke and	contain	with	inert	material (sand
Waste Disposa: Me	othod		separate contain							
	Comply v	Jith lura	all local, stat material with la	e and i	tederal	regula	tions.	If lo	cal ordina	nces
collect the	product with	the	aid of inert mat	erial a	nd dispo	water p se of i	n appro	aispo ved si	osai. Utner tes or land	wise fill
					-		pp			
Precautions to Be	Taken in Handling a	ns Sto	ing (and/cr Other Precau	itions)						
Keep contain	ners closed w	hen :	not in use. KEEP	OUT OF F	REACH OF	CHILDR	EN			
							2			
Section VIII -	Control Measu	res								
			required if good	and norm	al vent	ilation	ie mai	ntaine	.d	•
	Local Exhaust N.A		equired if good	15	pecial N.A	TTACTON	15 mai	iicariie		
1)ther	•				•
Protection Clause	Mechanica' (General)			Eye Prote	N.A	•	··· 			•
·····	Normally not	requ	ired	-ye ribi	rec	ommende	d			
Other Protective C	lothing or Equipment		Normally not	needed						
WorldHygienic Prai	ctices	t hou	sekeening practi							

Page 2

. USGPO 1901-491-529/-5775

Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard.

29 CFR 1910.1200. Standard must be

consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form)

Form Approved
OMB No. 1218-0072

HAZARD RATING EM:
4-EXTREME
3-MIGH
2-MODERATE GRALING 1 TO REACTION
0-INSIGNIFICANT
0-SEE SECTION 'Vy

IDENTITY (As Used on Label and List) LAMCO SCHOOL BRAND (Floor	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that:				
Section I					
Manufacturer's Name LAMCO CHEMICAL CO. IN	Emergency Telephone Numbe:	(617) 884-84	470 **		
Address (Number, Street, Crty, State, and ZIP Code) 212 Arlington Street		Telephone Number for Information Same ** or 1	ocal Poison	Center	
CHELSEA, MA 02150		Date Prepared July 21,	1987		
	·	Signature of Preparer (optional)	Slage (L' Cearin	
Section II — Hazardous Ingredients/Identity	Information		Α		
Hazardous Components (Specific Chemical Identity, Com-	mon Name(s))	OSHA PEL ACGIH TLV	Other Limits Recommended	% (optional)	
Components not classified hazardou	s by natur	e or concentration		···	
Section III — Physical/Chemical Characteris	tics				
Boiling Point	212 ° F	Specific Gravity (H ₂ O = 1)		1.015	
Vapor Pressure (mm Hg.)	ca. water	Metting Point		N.A.	
Vapor Density (AIR = 1)	ca. water	Evaporation Rate (Butyl Acetate = 1) slower	than ether		
Solubility in Water Complete					
Appearance and Odor Tan liquid Non de	scriptive	odor	pН	7.8 - 9.5	
Section IV — Fire and Explosion Hazard Da	ta				
Flash Point (Method Used) TCC. None to boiling 200 F plus.		Flammable Limits none determined	N.A.	UEL N.A.	
Extinguishing Media Water					
Special Fire Fighting Procedures none					
Unusual Fire and Explosion Hazards					
Material can splatter above 100° C/	212° F. W	ax film can burn.			

Disclaimer of Liability

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Section V	Reactivity Data				
Stability	Unstable	ĺ	Conditions to Avoid		
	Stable	X	Do not mix w	ith anything bu	it water
Incompatibility (Materials to Avoid)	<u> </u>	Concentrated or s		
Hazardous Decor	nposition or Byprodu	C15	None known		
Hazardous	May Occur	T	Conditions to Avoid		
Polymerization	Will Not Occur	 			
		Х	N.A.	· · · · · · · · · · · · · · · · · · ·	
	Health Hazard				
Route(s) of Entry	Inha	lation?	x	Skin? X	ingestion?
Heath Hazards (Acute and Chronic)		Acute: May cause na	usea or heada	ache in rare cases.
		(Chronic: No chronic	data presentl	ly available.
				ADS 14	
Cardinogenicity	NTF	² No)	ARC Monographs? No	OSHA Regulated? No
Signs and Symp	toms of Exposure	ould	cause nausea and/	or headache in	rare cases. If splashed into eyes
would cause	e eye ixritat	ion.	Could be irritati	ng to skin upo	n repeated and prolonged contact.
Medical Condition	15		None known		
General, Aggras	ated by Exposure		None Known		
Section VII — Steps to Be Take Mop up or wearth, etc. Waste Disposal Mallow sewer collect the	- Precautions for in Case Materia is et vacuum; le) and transfe ethod Comply disposal, diproduct with	Fieles are to with luter the range Su	sea dry. LARGE SPII b separate containe all local, state material with lar aid of inert mate	tators away, f LS: Dike and ers for disposa and federal ge amounts of erial and dispo	regulations. If local ordinance: water prior to disposal. Otherwise ose of in approved sites or landfil
	ners closed v		not in use. KEEP C	OUT OF REACH OF	CHILDREN
-			required if good s	nd normal vest	ilation is maintained.
	Local Exhaust N.A		redutted it Rood a	Special N.A	
*				Other	
Property Circuit	Mechanica! (General,	Adad	uate	N.A	•
	Normally not		uired	rec	ommended
Other Protective (Diothing or Equipmen	1	Normally not	needed	
WorldHygienic Pri	Coc	d bo			
	Goo	a no	usekeeping practic	es apply.	MEGPD 100-201-579-2577

Material Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard, 29 CFR 1910.1200 Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration

Form Approved OMB No 1218-0072

(Non-Mandatory Form)

4-EXTREME 3-HIGH 2-MODERATE 1-SLIGHT 0-INSIGNIFICANT --BEE BECTION 1

HAZARD BATING FEE

IDENTITY (As Used on Label and List) LAMCO "#884" FLOOR FINISH			Note Blank spaces are not permitted. If any Item is not applicable, or no information is available, the space must be marked to indicate that.				
Section I	·						
Manufacturer's Name	LAMOO CHEMICAL COMPANY,	INC.,	Emergency Telephone Number (617) 884-8470				
Address (Number, Street, City, State, and ZIP Code)			Telephone Number for Info	rmation (617) 8	B 4-84 70		
	212 Arlington Street	Date Prepared June 25, 1987					
	CHELSEA, MA 02150		Signature of Preparer (opti	onall OSec	ope (li Clean	
Section II - Haza	irdous Ingredients/Identi	ty Information			7		
Hazardous Components	s (Specific Chemical Identity, Co	ommon Name(s))	OSHA PEL ACGI		her Limits ommended	⁰π (optiona')	
	COMPONENTS 1	NOT CLASSIFI	IED HAZARDOUS BY I	NATURE OR CO	NCENTRA	TION	
	sical/Chemical Characte						
Boiling Point		212° F	Specific Gravity (H ₂ O = 1)			1.02	
Vapor Pressure (mm H	g)	ca. water	Melting Point			N.A.	
Vapor Density (AIR = 1)	ca. water	Evaporation Rate (Butyl Acetate = 1)	wer than et	her		
Solubility in Water	complete						
Appearance and Odor	Milky white	liquid - m	ild acrylic odor	1	pH 8 -	9	
Section IV — Fire	and Explosion Hazard I	Data					
Flash Point (Method Us	TCC - None to boi	ling 210°F+	Flammable Limits None determin	ed LEi	N.A.	UEL N.A.	
Extinguishing Media	Water						
Special Fire Fighting Pr	rocedures None						
Unusual Fire and Explo	sion Hazards						
Material	can splatter above	100°C/212°F	. Polymer film c	an burn.			

Disclaimer of Liability As conditions or methods of use are beyond our control, we do not assume any responsibilities and expressly disclaim any liability for use of the material. The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Section V -	- Reactivity Data				
Stability	Unstable		Conditions to Avoid		
	Stable	х	Do not mix with	anything but w	ater
Incompatibility	(Materials to Avoid)		Concentrated or strop	ng oxidizing ag	ents
Hazardous Dec	composition or Byprodu	icts	None known		· · · · · · · · · · · · · · · · · · ·
Hazardous	May Occur		Conditions to Avoid		
Polymerization	Will Not Occur	+	N A		
Section VI	- Health Hazard		N.A.		
			Y Skin?	Y	Ingestion?
Heath Hazards	(Acute and Chronic)				
	- 4				
Carcinogenicity	NTF	² No	IARC	Monographs? No	OSHA Regulated? No
Signs and Sym	nptoms of Exposure	ould	cause nausea and/or	headache in ra	re rases. If shlashed into eves
would cau					
Medica Condition	ons				process and processing to the second
Genera , Aggra	vates by Exposure		None known		
Emerana and	Eure Aid Proces :: 45				
Emergency and	FIIS. AIG FIOCEGUES	INHA	LATION: Move subject	to fresh air.	EYE and SKIN contact:
Flush eyes	with large ar	nount	s of water for at l	east 15 minut	es. If irritation persists get
medical at	ttention. Ski	1: W	ish affected areas w	ith soap a nd	water. INGESTION: Administer
water or m	ilk to dilute.	GET	IMMEDIATE MEDICAL AT	TENTION.	
Steps to Be Tak	en in Case Materia Is	Releas	ed or Spilled Keep spectat	ors away, floo	r may be slippery. SMALL SPILLS:
Mop up or v	wet vacuum; le	t ar	ea dry. LARGE SPILLS:	Dike and con	tain with inert material (sand
-11	Comply	with	all local, state as	nd federal reg	gulations. If local ordinances
allow Sewe.	i disposai, di	rure	material with large	amounts of wat	er prior to disposal. Utherwise
collect the	e product with	tne	ald of inert materia	l and dispose	of in approved sites or landfill
Precautions to B	Se Taken in Handling i	nd Sto	ING (eni/ce Other Precautions)	 -	
			•	an BE.ou on ou	
keep conta:	iners closed w	nen 1	not in use. KEEP OUT	OF REACH OF CH	ILDREN
Stable X Do not mix with anything but water					
Respiratory Prote	ection (Specify Type) N	one 1	equired if good and	normal ventila	tion is maintained.
	Local Exhaust N.A	•			
	Mechanica! (General)	Adanı	nate		
Protective Gloves	Normally not	real	ired	Protection	ended
WorldHygienic Pi	ractices				
	Goo	d hou	sekeeping practices	ipply.	
			Page 2		■ UBGPO 1884-491-529/45775

SEP 7 1984

FIRE

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

HAZARD RATING

. EXTREME

u MGH

2 = MODERATE 1 = SLIGHT 9 = INSIGNIFICANT MEALTH 1 0 0 ME

SPECIFIC

EMERGENCY TELEPHONE NO. (617) 884-8470
TRADE NAME AND SYNONYMS Lamco Buffable Floor Finish

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS]	BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS	7				
HAZARDOUS MIXTURE	S OF	OTHER LI	QUIDS, SOLIDS, OR GASES	*	TLV (Units)
Does not contain hazardous su	ıbsta	nces in	reportable quantities.		

SECTION III - PHYSICAL DATA								
SOILING POINT (F.)	(water)	212	SPECIFIC GRAVITY (H2O=1)	1.020				
VAPOR PRESSURE (mm Hg.)		N.A.	PERCENT, VOLATILE	83.5				
VAPOR DENSITY (AIR+1)		N.A.	EVAPORATION RATE (et -				
SOLUBILITY IN WATER		complete	pH	8.6				
APPEARANCE AND ODOR	Milky whit	te li q uid.	Odor: pleasant					

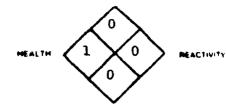
SECTION IV - FIRE AI	ND EXPLOSION HAZARD DAT	Ά	
FLASH POINT (Method used) Tag Closed Cup none to boiling point 200 F. +	FLAMMABLE LIMITS	اهيا	Uel
EXTINGUISHING MEDIA Water			
SPECIAL PIRE FIGHTING PROCEDURES DODE			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

HAZARD RATING

- 4 = EXTREME
- 3 = HIGH
- 2 . MODERATE
- 1 # SLIGHT 0 = INSIGNIFICANT



FIRE

SECTION I

MANUFACTURER'S NAME

LAMCO CHEMICAL CO., INC.

Appress (Number, Street, City State, and ZIP Code)
212 Arlington Street, Chelsea, MA 02150

CHEMICAL NAME AND EVNONUMS
Aqueous Floor Finish Emulsion

CHEMICAL FAMILY
Anionic Emulsion

FORMULA

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS	\perp		BASE METAL	1	
CATALYST			ALLOYS		
VEHICLE	T		METALLIC COATINGS	7	
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS .					
HAZARDOUS MIXTURE	s of c	OTHER LI	QUIDS, SOLIDS, OR GASES	*	TLV (Units)
Diethylene Glycol Methyl Ether	CA	S #111-	77-3 4.	25	not
				1	establ

SECTION III - PHYSICAL DATA						
soiling point (°F.) (water)	212	SPECIFIC GRAVITY (H2O=1)	1.022			
VAPOR PRESSURE (mm Hg.)	water	PERCENT, VOLATILE BY VOLUME (%)	81.5			
VAPOR DENSITY (AIR=1)	water	EVAPORATION RATE slower than	ether			
SOLUBILITY IN WATER	complete	рН	9.1			
APPEARANCE AND ODOR Milky white	liquid o	dor pleasant.				

SECTION IV - FIRE AND EXPLOSION HAZARD DATA							
None to boiling point 2000 F. +	FLAMMABLE LIMITS	اها	Ue)				
EXTINGUISHING MEDIA							
SPECIAL FIRE FIGHTING PROCEDURES No special requirements.							
UNUSUAL FIRE AND EXPLOSION HAZARDS							

PAGE (1)

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Form OSHA-20 Rev. May 72

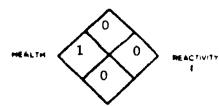
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U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

HAZARD RATING

- 4 . EXTREME
- 3 = HIGH
- 2 MODERATE T = SLIGHT 0 = INSIGNIFICANT



FIRE

SPECIFIC SECTION I MANUFACTURER'S NAME EMERGENCY TELEPHONE NO. (617) 884-8470 LAMCO CHEMICAL COMPANY, INC. ADDRESS (Number, Street, City, State, and ZIP Code)
212 Arlington Street, Chelsea, MA
CHEMICAL NAME AND SYNONYMS 02150 TRADE NAME AND SYNONYMS Lamco Deluxe Floor Wax CHEMICAL FAMILY FORMULA

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		-
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURE	S OF C	THER LI	DUIDS, SOLIDS, OR GASES	*	TLV (Units)
Does not contain hazardous su	bsta	nces in	reportable quantities.		

	SECT	TION III - F	PHYSICAL DATA	
BOILING POINT (°F.)	water	212	SPECIFIC GRAVITY (H20=1)	1.014
VAPOR PRESSURE (mm Hg.)	water	PERCENT, VOLATILE	86
VAROR DENSITY (AIR+1)		water	EVAPORATION RATE slower than	ether
SOLUBILITY IN WATER		complete	рН	9
APPEARANCE AND ODOR	Color: ta	n	Odor: mild	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA								
FLASH POINT (Method used) Tag Closed Cup none to boiling point 200 F. +	FLAMMABLE LIMITS	Let	Uei					
EXTINGUISHING MEDIA WATER SPECIAL FIRE FIGHTING PROCEDURES NONE								
UNUSUAL FIRE AND EXPLOSION HAZARDS								

10

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

MAZARO RATING

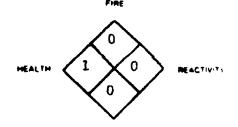
4 = EXTREME

3 = MGM

2 = MODERATE

1 = SLIGHT

0 = INSIGNIFICANT



SECTION!

MANUFACTURER'S NAME

LAMCO CHEMICAL CO., INC.

Appress (Number, Street, City, State, and ZIP Code)
212 Arlington Street, Chelsea, MA 02150

CHEMICAL NAME AND SYNONYMS
Aqueous Floor Finish Emulsion

CHEMICAL FAMILY
Anionic Emulsion

FORMULA

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS .					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				*	TLV (Units)
Diethylene Glycol Methyl Ether	CA	s #111-	77 ~ 3	5.4	not
					establ

SECTION III - PHYSICAL DATA						
BOILING POINT (°F.) (water)	212	SPECIFIC GRAVITY (H2O=1)	1.030			
VAPOR PRESSURE (mm Hg.)	water	PERCENT, VOLATILE BY VOLUME (%)	76			
VAPOR DENSITY (AIR=1) Water EVAPORATION RATE slower than ether						
SOLUBILITY IN WATER	complete	рН	9.2			
APPEARANCE AND ODOR Milky Whi	te liquid o	dor pleasant.				

SECTION IV - FIRE AND EXPLOSION HAZARD DATA							
Rone to boiling point 2000 F. +	FLAMMABLE LIMITS	اهي	Uel				
EXTINGUISHING MEDIA							
No special requirements.							
UNUSUAL FIRE AND EXPLOSION HAZARDS							

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U.S. DEPARTMENT UP LABOR
Occupational Safety and Health Administration

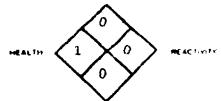
MATERIAL SAFETY DATA SHEET

MAZARO MATING

AZAND NATING

2 = HIGH 2 = MODEMATE

t = SLIGHT 0 = INSIGNIFICANT



SPECIFIC

SECTION I							
MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.						
LAMCO CHEMICAL COMPANY, INC.	(617) 884-8470						
212 Arlington Street, Chelsea, MA 02150							
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS Lamco Extra Heavy Duty						
CHEMICAL FAMILY	FORMULA Industrial Floor Wax						

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
OLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		<u> </u>
OTHERS					}
HAZARDOUS MIXTUR	ES OF	OTHER LI	QUIDS, SOLIDS, OR GASES	*	(Unite
Does not contain hazardous sub	stanc	es in r	eportable quantities.		

		SEC	TION III - I	PHYSICAL DATA	
SOILING POINT (*F.)	water		212	SPECIFIC GRAVITY (H2O=1)	1.02
VAPOR PRESSURE (mm Hg.)			water	PERCENT, VOLATILE BY VOLUME (%)	86
VAPOR DENSITY (AIR-1)			water	EVAPORATION RATE (slower than ethe	r
SOLUBILITY IN WATER			complete	рН	9.4
APPEARANCE AND ODOR	Color:	tan		Odor: mild	la de la compansión de la

SECTION IV - FIRE AND EXPLOSION HAZARD DATA								
PLASH POINT (Method used) Tag Closed Cup none to boiling point 200 F. +	FLAMMABLE LIMITS	Lei	Uei					
EXTINGUISHING MEDIA WATER								
SPECIAL FIRE FIGHTING PROCEDURES			and the second s					
UNUSUAL FIRE AND EXPLOSION HAZARDS			The second se					
·								

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FIRE

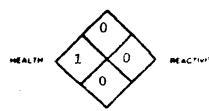
U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

NAZARO RATING

4 = EXTREME

3 a NIGH 2 = MODERATE 1 = SLIGHT 0 = MSIGNIFICANT



SPECIFIC SECTION I MANUFACTURER'S NAME EMERGENCY TELEPHONE NO. LAMCO CHEMICAL COMPANY, INC. (617) 884-8470 ADDRESS (Number, Street, City, State, and ZIP Code) 212 Arlington Street, Chelsea, MA CHEMICAL NAME AND SYNONYMS 02150 TRADE NAME AND SYNONYMS Lamco Superior Floor Wax CHEMICAL FAMILY FORMULA

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES %			TLV (Units)		
Does not contain hazardous subs	tanc	es in r	eportable quantities.		

SECTION III - PHYSICAL DATA					
BOILING POINT (°F.)	water	212	SPECIFIC GRAVITY (H20+1)	1.02	
VAPOR PRESSURE (mm Hg).)	water	PERCENT, VOLATILE BY VOLUME (%)	86	
VAPOR DENSITY (AIR=1)		water	EVAPORATION RATE (her	
SOLUBILITY IN WATER		complete	рH	9.4	
APPEARANCE AND ODOR	Color: t	an	Odor: mild		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA						
FLASH POINT (Method used) Tag Closed Cup none to boiling point 200° F. +	FLAMMABLE LIMITS	Lei	Uel			
EXTINGUISHING MEDIA Water	_					
SPECIAL FIRE FIGHTING PROCEDURES none						
UNUSUAL FIRE AND EXPLOSION HAZAROS						
-						

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

HAZARD RATING

. . EXTREME

3 a HIGH

2 = MODERATE 1 = SLIGHT 0 = INSIGNIFICANT HEALTH I O O REACTIVITY

	SPECIFIC
SECT	ION I
MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
LAMCO CHEMICAL COMPANY, INC.	(617) 884-8470
212 Arlington Street, Chelsea, MA 02150	
CHEMICAL NAME AND SYNONYMS	Lamco Red Label Institutional
CHEMICAL FAMILY	FORMULAFIOOT Wax

*	TLV (United	ALLOYS AND METALLIC COATINGS	*	TLY (Unite)
		BASE METAL		
		ALLOYS		
		METALLIC COATINGS		
		FILLER METAL PLUS COATING OR CORE FLUX		
		OTHERS		
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES %			TLV (Units)	
bstanc	es in r	eportable quantities.		
	HES OF (HES OF OTHER LIG	ALLOYS AND METALLIC COATINGS BASE METAL ALLOYS METALLIC COATINGS FILLER METAL PLUS COATING OR CORE FLUX GTHERS	ALLOYS AND METALLIC COATINGS & BASE METAL ALLOYS METALLIC COATINGS FILLER METAL PLUS COATING OR CORE FLUX OTHERS MES OF OTHER LIQUIDS, SOLIDS, OR GASES %

SEC	TION III - F	PHYSICAL DATA	
SOILING POINT (°F.) Water	212	SPECIFIC GRAVITY (H2 0=1)	1.016
VAPOR PRESSURE (mm Hg.)	water	PERCENT, VOLATILE BY VOLUME (%)	86
VAPOR DENSITY (AIR+1)	water	EVAPORATION RATE slower than et	her
SOLUBILITY IN WATER	complete	рН	9.2
APPEARANCE AND ODOR Color: tan		Odor: mild	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA							
none to boiling point 2000 F. +	FLAMMABLE LIMITS	Lei	Uei				
Extinguishing Media Water							
SPECIAL FIRE FIGHTING PROCEDURES							
UNUSUAL FIRE AND EXPLOSION HAZARDS NOTICE							

SEP 1 2 1964

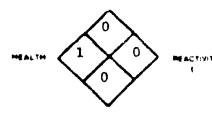
FIRE

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

NAZARD RATING

- . . EXTREME
- 3 = MGH 2 . MODERATE
- I . SLIGHT
- 0 = MSIGNIFICANT



SPECIFIC SECTION I MANUFACTURER'S NAME EMERGENCY TELEPHONE NO. (617)LAMCO CHEMICAL COMPANY, INC. 884-8470 ADDRESS (Number, Street, City, State, and ZIP Code)
212 Arlington Street, Chelsea, MA
CHEMICAL NAME AND SYNONYMS 02150 TRADE NAME AND SYNONYMS CHEMICAL FAMILY FORMULA

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLY Units
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURE	S OF	OTHER LIC	DUIDS, SOLIDS, OR GASES	×	TLV (Unite
Does not contain hazardous su	ıbsta	nces in	reportable quantities.		

SECTION III - PHYSICAL DATA						
BOILING POINT (°F.) Water	12 SPECIFIC GRAVITY (H2 0=1)	114				
VAPOR PRESSURE (mm Hg.) Wate	PERCENT, VOLATILE 86					
VAROR DENSITY (AIR-1) Wate	r (slower than ether					
SOLUBILITY IN WATER COM	Plete pH 9					
APPEARANCE AND ODOR Color: tan	Odor: mild					

SECTION IV - FIRE AND EXPLOSION HAZARD DATA							
FLASH POINT (Method used) lag Closed Cup none to boiling point 200° F. +	FLAMMABLE LIMITS	100	Uei				
EXTINGUISHING MEDIA Water							
SPECIAL FIRE FIGHTING PROCEDURES none							
UNUSUAL FIRE AND EXPLOSION HAZARDS none	and the same of						
•							

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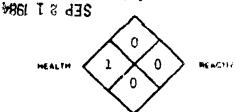
U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

HAZARO RATING

4 & EXTREME 3 = HIGH

2 = MODERATE 1 = SLIGHT 0 = INSIGNIFICANT



FIRE

SECTION I

MANUFACTURER'S NAME

LAMCO CHEMICAL COMPANY. INC.

ADDRESS (Number, Street, City, State, and ZIP Code)

212 Arlington Street, Chelsea, MA 02150

CHEMICAL NAME AND SYNONYMS

CHEMICAL FAMILY

SECTION I

EMERGENCY TELEPHONE NO.

(617) 884-8470

TRADE NAME AND SYNONYMS

RASIC WAX

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	(Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			PILLER METAL PLUS COATING OR CORE FLUX		
AODITIVES			OTHERS		
OTHERS .					
HAZARDOUS MIXTURE	ES OF	OTHER LI	DUIDS, SOLIDS, OR GASES	*	(Units)
Does not contain hazardous sub	stan	ces in	reportable quantities,		
					1

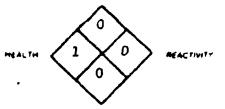
	SECTION III - I	PHYSICAL DATA	
soiling Point (°F.) (water)	2120 F.	SPECIFIC GRAVITY (H2O=1)	0,990
VAPOR PRESSURE (mm Hg.)	water	PERCENT, VOLATILE BY VOLUME (%)	76
VAPOR DENSITY (AIR-1)	water	evaporation rate (<u> </u>
SOLUBILITY IN WATER	complete	рН	8.2
APPEARANCE AND ODOR Amber CO	lor distinc	tive way emulsion odor	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA							
PLASH POINT (Method used) Tag Closed Cup none to boiling point 2000 F	FLAMMABLE LIMITS	lei	Uei				
Extinguishing Media water							
SPECIAL FIRE FIGHTING PROCEDURES			······································				
none							
UNUSUAL FIRE AND EXPLOSION HAZAROS		. ميستونيد فيدين ^{بن ا} المتأثيث من بين سبح فيد بالم					
	indergradiente digente variet still det de die de	angga apatap ne mit 16 th magazapanin apatan	ndistraction of pates course .				
•							

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

HAZARD RATING 4 . ELTREME 3 . HIGH 2 - MODERATE 1 . SLIGHT 0 . INSIGNIFICANT



SPECIFIC

S	ECTION I
MANUFACTURER'S NAME LAMCO CHEMICAL COMPANY, INC.	EMERGENCY TELEPHONE NO. (617) 884-8470
ADDRESS (Number, Street, Ciry, State, and ZIP Code) 212 Arlington Street, Chelsea, MA 021	50
CHEMICAL NAME AND SYNONYMS POTABBIUM BORD	Pine Scrub Soap
CHEMICAL FAMILY anionic	FORMULA
SECTION II - HA	ZARDOUS INGREDIENTS

SECTION	· 11 V	HAZAF	RDOUS INGREDIENTS		
Paints, preservatives, & solvents	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS		<u> </u>	BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS .					
HAZARDOUS MIXTURE	S OF	OTHER LI	DUIDS, SOLIDS, OR GASES	×	TLV (Units)
Isopropyl Alcohol CAS #67-63-0	<u> </u>			1	400
	· · · · · · · · · · · · · · · · · · ·				bbm
					

	SECTION III - I	PHYSICAL DATA	
SOILING POINT (OF.)	N.A.	SPECIFIC GRAVITY (H2O=1)	1.005
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT, VOLATILE	86.5
VAPOR DENSITY (AIR-1)	N.A.	EVAPORATION RATE slower than	ether
SOLUBILITY IN WATER	complete	pH	11.4
APPEARANCE AND ODOR Color	: amber	Odor: pleasant - slight pir	ne

SECTION IV - FIRE AND EXPLOSION HAZARD DATA							
none to politing hour 2000 b. +	FLAMMABLE LIMITS	Lei	Uei				
Extinguishing media Water			<u> </u>				
SPECIAL FIRE FIGHTING PROCEDURES none							
UNUSUAL FIRE AND EXPLOSION HAZARDS							

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

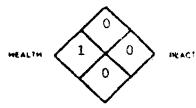
HAZARO RATING

. EXTREME

3 - HIGH

2 - MODERATE

1 = SLIGHT 0 = INSIGNIFICANT



SECTION 1

MANUFACTURER'S NAME

LAMCO CHEMICAL COMPANY, INC.

ADDRESS /Number, Street, Ciry, Siete, and ZIP Code;
212 Arlington Street, Chelsea, MA 02150

CHEMICAL NAME AND SYNONYMS

CHEMICAL FAMILY
potash soap

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLY (lining
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		:
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURE	S OF C	THER LI	DUIDS, SOLIDS, OR GASES	*	TLV (Units
none					

SECTION III - PHYSICAL DATA						
BOILING POINT (°F.) Water	212	SPECIFIC GRAVITY (M20=1)	1.008			
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT, VOLATILE BY VOLUME (%)	85			
VAPOR DENSITY (AIR+1)	N.A.	evaporation rate (si) slower than eth	er			
SOLUBILITY IN WATER	complete		11			
APPEARANCE AND ODOR Color: 1:	Lght amber	Odor: pleasant				

SECTION IV - FIRE AND	EXPLOSION HAZARD DAT	Ά	
none to boiling point 2000 F. + Cup	FLAMMABLE LIMITS	اما	Uei
extinguishing media water			
SPECIAL FIRE FIGHTING PROCEDURES none required			
UNUSUAL FIRE AND EXPLOSION HAZAROS none			

Material Salety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be

U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form)
Form Approved

HAZARD RATING FIFT
4-EXTREME
3-MIGH
2-MODERATE MEALTH 1
0 RELITIVELY
0-INSIGNIFICANT
--SEE SECTION VI

consulted for specific requirements. OME No. 1218-0072 DENTITY (As Used on Label and List) LAMCO REMOVIT Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that Section I Manufacturer's Name Emergency Telephone Number LAMCO CHEMICAL CO. INC.. (617) 884-8470 Address (Number, Street, City, State, and ZIP Code) Telephone Number for Information 212 Arlington Street (617) 884-8470 Date Prepared CHELSEA, MA 02150 June 22, 1987 Signature of Preparer (optional) Section II - Hazardous Ingredients/Identity Information Other Limits Hazardous Components (Specific Chemical Identity, Common Name(s)) OSHA PEL ACGIH TLV Recommended % (optional) 50 ppm 25 ppm N.A. Ammonia (Aqua) CAS # 1336 - 21 - 6 1 - 2% Isopropyl Alcohol CAS # 67-63-0 400 ppm 500 ppm N.A. 1 - 3% Ethanolamine CAS # 141-43-5 N.A. 3 ppm 32 Section III - Physical/Chemical Characteristics **Boiling Point** 212° F Specific Gravity (H₂O = 1) 1.015 Vapor Pressure (mm Hg) Metting Point ca. water N.A. Evaporation Rate Vapor Density (AIR = 1) (Butyl Acetate = 1) slower than ether ca. water Solubility in Water complete Appearance and Odor Amber liquid. Ammoniacal odor pH 12.8 Section IV - Fire and Explosion Hazard Data Flammable Limits LEL LIEL Flash Point (Method Used) TCC - none to boiling. 200° F + None determined N.A. Extinguishing Media Water

Disclaimer of Liability

Unusual Fire and Explosion Hazards

Special Fire Fighting Procedures

None

None

Section V -	- Reactivity Data					• • •		\
Stability ·	Unstable	T	Conditions to Avoid				2	
	Stable	х	Do not mix with any	thing but wate		*. %		i. No
Incompatibility	(Materials to Avoid)	Conce	ntrated or strong oxid	lzing agents.	·	•		
Hazardous Deco	omposition or Byprodu	cts	Possibly some carbon m	orioxide		*1		
Hazardous	May Occur,	1	Conditions to Avoid					
Polymerization	Will Not Occur	X	Excessive hear				e _{di} ,	
Section VI -	- Health Hazard	Data	L					···
Route(s) of Entr		lation?	Y	Skin?		Ingestion?	x	
Health Hazards	44 - 42 - 24 Observe		: Possible irritation (spiratory syst	en.		
	·		ic: No chronic data pre					
	 							
Carcinogenicity	NTP	? No		ARC Monographs	i? No	OSHA Reg	ulated?	No
Signs and Symp	noms of Exposure T	rrita	tion of skin, eyes or i	respiratory s	vstem. Excessi	ve inhalatio	n: Coule	i possibly
			neadache and nausea.					
Medical Condition	nns.							
Generally Aggra	valed by Exposure M	By fu	rther aggravate existin	g skin disorc	ers and/or re	spiratory ai	lments.	
			irrigate with water fo					
get medical a	ittention.		ATE MEDICAL ATTENTION. Handling and Use	IVALATION:	nove subject	to Iresii (
ater. Produc	t is infinitely	solubi	ed or Spilled Contain spi le with water. Once mon a area until dry.					
be discharged this. If wate	l into sewers unt r is used, dilut	il pH e each	local, state & federal has been reduced. Neut a unspent part of produce collect material with	ralization wi ct with at le	th acids or 1 east 10 parts	arge amounts of water. Th	of wate en IF le	er will accompli cal ordinances
Precautions to B	e Taken in Handling	and Sto	oring (and/cre Other Precaut	ions) Keep o	container clos	ed when not	in use.	Avoid continued
as product is	•	ent ar	without wearing prote nd excessive skin conta DREN.	ct or eye cor	ntact may caus		_	• •
Section VIII	- Control Measu	Jres				· · · · · · · · · · · · · · · · · · ·		
Respiratory Prote	ction (Specify Type)		areas. In confined spa	cas salf sa	stained becat	inc manage	o mon h	add cable
Ventilation		A.	areas. In contined spa	Specia		nig apparatu	D HELY O	- GAATSUNE.
	Mechanical (General)		 ate	Other	N.A.			
Protective Gloves	Rubber or late	<u> </u>		Eye Protection	Goggles or	face shield	recomm	nded.
	Clothing or Equipmen		Normally not r	emitred.				
Work/Hygienic P								
		oou no	usekeeping practices a	hhtà•				

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard
29 CFR 1910 1200 Standard must be
consulted for specific requirements

U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form)
Form Approved
ONTR No. 1218-0072

	TY (As Used on Label and List) IAMCO NON-ACID BOWL CIEANER			Note Blank spaces are not permitted if any item is not applicable or no information is available, the space must be marked to indicate that				
Section I						امروان بران وجي البياس الخط		
Manufacturer's Name	LAMOO CHEMICAL COMPANY	, INC.,	Emergency Telephone Number (617) 884-8470 ***					
Address (Number, Stre	Address (Number, Street, City, State, and ZIP Code)			for information T Local Pos	ison Center			
	212 Arlington Street		Date Prepared	Aug 1	1, 1987			
	CHELSEA, MA 02150		Signature of Prepar	er (optional)(u)	sign Ci	Cean		
Section II - Haz	ardous Ingredients/Iden	tity Informatio	n					
Hazardous Componen	ts (Specific Chemical Identity, C	Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (options		
2-Butoxy Ethanol	(Ethylene Glycol Butyl	Ether)	25 ppm	50 ppm	N.A.	8 - 9.		
	(CAS # 111-76-2)					· · · · · · · · · · · · · · · · · · ·		
Section III - Phy	eignl/Chamical Characte	rietice						
Castion III - Dhu	aine I/Ohamiani Ohamata	alakia						
	sical/Chemical Characte	ristics	Specific Gravity (H ₂ C) = 1)		1.065		
Boiling Point			Specific Gravity (H ₂ C	O = 1)		1.065 N.A.		
Section III — Phy Boiling Point Vapor Pressure (mm Hi Vapor Density (AIR » 1	g)	212° F) = 1) slower than	n ether.			
Boiling Point Vapor Pressure (mm Hi	g)	212° F	Metting Point Evaporation Rate		n ether.			
Boiling Point Vapor Pressure (mm Hi Vapor Density (AIR + 1 Solutility in Water	g) ; complete	212° F	Metting Point Evaporation Rate	slower than	n ether.			
Boiling Point Vapor Pressure (mm Hi Vapor Density (AIR = 1 Solutility in Water Appearance and Odor	g) ; complete	212° F ca. water ca. water	Metting Point Evaporation Rate	slower than	n ether.			
Boiling Point Vapor Pressure (mm Hi Vapor Density (AIR = 1 Solutility in Water Appearance and Odor Section IV — Fire	complete Amber liquid =	212° F ca. water ca. water Lemon odor	Melting Point Evaporation Rate (Butyl Acetate = 1)	slower than	LEL N.A.			
Boiling Point Vapor Pressure (mm Hi Vapor Density (AIR = 1 Solint-lity in Water Appearance and Odor Section IV — Fire Flash Point (Method Us)	complete Amber liquid = and Explosion Hazard	212° F ca. water ca. water Lemon odor	Melting Point Evaporation Rate (Butyl Acetate = 1)	slower than	LEL	N.A.		
Boiling Point Vapor Pressure (mm Hi Vapor Density (AIR = 1 Solutility in Water Appearance and Odor Section IV — Fire	complete Amber liquid = and Explosion Hazard ed) None to boiling 200°; Water	212° F ca. water ca. water Lemon odor	Melting Point Evaporation Rate (Butyl Acetate = 1)	slower than	LEL	N.A.		

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MATERIAL SAFETY DATA SHEET

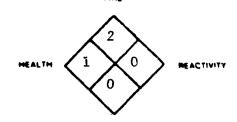
MAZARO RATING

4 = EXTREME

3 = MIGH

2 = MODERATE

0 . INSIGNIFICANT



FIRE

SECTION I

MANUFACTURER'S NAME

LAMCO CHEMICAL COMPANY, INC.

ADDRESS (Number, Street, City, State, and ZIP Code)
212 Arlington Street, Chelsea, MA 02150

CHEMICAL NAME AND SYNONYMS

TRADE NAME AND SYNONYMS

CHEMICAL FAMILY

FORMULA

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units
PIGMENTS		}	BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURE	S OF (OTHER LIC	QUIDS, SOLIDS, OR GASES	×	TLV (Unite
Isopropyl Alcohol CAS 67-63-0				20	400
				~	ppm

SECTION III - PHYSICAL DATA						
BOILING POINT (°F.) distillation	170-250	SPECIFIC GRAVITY (H2O=1)	1.006			
VAPOR PRESSURE (mm Hg.) estimated	20 mm	PERCENT, VOLATILE BY VOLUME (%)	50			
VAPOR DENSITY (AIR=1) estimated	1.5	EVAPORATION RATE slower than	ether			
SOLUBILITY IN WATER	complete	рН	5.5			
APPEARANCE AND ODOR Color: gr	een	Mild odor	·			

FLASH POINT (Method used)	Tag Closed Cu	D 11/0 D	FLAMMABLE LIMITS		Uei
		114° F.			
Extinguishing MEDIA Water, spray foam	dry chemical	CO ₂			
SPECIAL FIRE FIGHTING PR Self contained breat	ocedures thing apparatus	recommend	ed for extremely lar	ge spills.	
UNUSUAL FIRE AND EXPLO	SION HAZARDS		combustion hazard.	· · · · · · · · · · · · · · · · · · ·	

SECTION V - HEALTH HAZARD DATA
THRESHOLD LIMIT VALUE See Section II
May cause eye and skin irritation.
Eye and skin contact: flush eyes with large amount of water for at least 15
minutes. See a physician if irritation persists. Wash affected skin areas
with soap and water.

SECTION VI - PEACTIVITY DATA					
STABILITY	UNSTABLE		conditions to Avoid excessive heat		
	STABLE	Х			
INCOMPATABILIT	V (Materials to an	rold)			
HAZARDOUS DEC	OMPOSITION PR	RODUCTS			
HAZARDOUS	MAY C	CCUR	CONDITIONS TO AVOID		
POLYMERIZATION		NOT OCCUR	Х		
, , , , , , , , , , , , , , , , , , , ,	j				

SECTION VII - SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Flush with water if possible or allow to dry and scrape up residue; spilled material may also be absorbed in sand or other inert material. WASTE DISPOSAL METHOD If material is diluted with water, flush to sewer if local ordinance permits. Otherwise use sanitary land fill approved by local, state and federal authorities as a disposal site.

	SECTION VIII - SPECIAL	L PROTECTION IN	FORMATION	
nermally no	one required as product is a	sed in small qua		1
VENTILATION	LOCAL EXHAUST		SPECIAL	
	MECHANICAL (General)		OTHER	
protective GLOV	t required	normally not	required	
OTHER PROTECTIV	E EQUIPMENT			

SECTION IX - SPECIAL PRECAUTIONS					
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Avoid splashing into face particularly eyes as product is a detergent type					
material and excessive skin or eye contact may cause irritation.					
OTHER PRECAUTIONS					

Placinimer of Linbility

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

0031-0055

Revised Sept. 1986

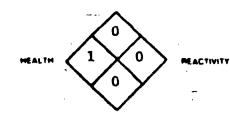
U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

ATERIAL SAFETY DATA SHEET

HAZARD RATING 4 = EXTREME

= HIGH

. MODERATE 1 . SLIGHT 8 - MSIGNIFICANT



FIRE

SPECIFIC SECTION I MANUFACTURER'S NAME EMERGENCY TELEPHONE NO. LAMCO CHEMICAL COMPANY, INC. (617)884-8470 ADDRESS (Number, Street, Ciry, State, and ZIP Code) 212 Arlington Street, Chelsea, MA 02150 CHEMICAL NAME AND SYNONYMS potassium soap (buffered) CHEMICAL FAMILY anionic TRADE NAME AND SYNONYMS Lamco Ammoniated Stripper FORMULA Formulated Product

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV	ALLOYS AND METALLIC COATINGS	T.	TLV
TAMES, TREET, TREET, & BOLVERIO		(Units)	ALLOTS AND METALLIC COATINGS	×	(Units)
PIGMENTS N.A.	1	1	BASE METAL N.A.	1	}
CATALYST N.A.			ALLOYS N.A.		
VEHICLE N.A.			METALLIC COATINGS N.A.		
SOLVENTS N.A.			FILLER METAL N.A. PLUS COATING OR CORE FLUX		
ADDITIVES N.A.			OTHERS		
OTHERS ,					
HAZARDOUS MIXTUI	RES OF	OTHER LI	QUIDS, SOLIDS, OR GASES	*	TLV (Units)
Ammonia CAS #7664-41-7			1.	25	50 pp
Isopropyl Alcohol CAS #67-63-	•0		2	•	400 pr
Ethanolamine CAS #141-43-5			1.	68	3 pr

S	ECTION III - P	HYSICAL DATA	
BOILING POINT (°F.)	212	SPECIFIC GRAVITY (H2O=1)	1.015
VAPOR PRESSURE (mm Hg.)	ca. water	PERCENT, VOLATILE SY VOLUME (%)	85
VAPOR DENSITY (AIR+1)	ca. water	EVAPORATION RATE slower than e	ther
SOLUBILITY IN WATER	complete	pН	12.8
APPEARANCE AND ODOR Color: day	rk amber	Odor: ammoniacal	

SECTION IV - FIRE AN	ND EXPLOSION HAZARD DAT	'A	
FLASH POINT (Meined used) Tag Closed Cup none to boiling point 200° F. +	FLAMMABLE LIMITS none determined	Lei	Uel
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES none			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

SECTION V - HEALTH HAZARD DATA
THRESHOLD LIMIT VALUE See Section II
Excessive and prolonged vapor inhalation in non-ventilated area may cause nausea.
Irritant to eyes.
EMERGENCY AND FIRST AID PROCEDURES If nauseated remove to fresh air. Get medical attention. Eyes: Flush with
water for 15 minutes. Get medical attention. Skin: Wash with warm water.
Ingestion: Induce vomiting. Get medical attention.

			SECTI	ON VI - P	EACTIVITY DATA
STABILITY	UNST	ABLE		CONDITIO	NS TO AVOID
	STAR	LE	х	Do	not mix with anything but water
INCOMPATABIL concentrat	ed oxid	iels to evoid izing a) gents		
HAZARDOUS DE	COMPOSI	TION PROD	OUCTS	Pos	sibly some CO
HAZARDOUS		MAY DCC	:UR	T	CONDITIONS TO AVOID
POLYMERIZATI	DN	WILL NO	T OCCUR	х	Excessive heat
			7		

SECTION VII - SPILL OR LEAK PROCEDURES

Flush contaminated area with plenty of water. Product is infinitely soluble. Small spiils may be picked up with mop & bucket or wet vacuum. If this is not possible absorb in sand or other inert material.

WASTE DISPOSAL METHOD Comply with all local, state & federal regulations. Solutions with pH 12.5 or higher should NOT be discharged into sewers until pH has been reduced. Large amounts of water or acids will accomplish this. Dilute UNSPENT liquid with about 5 parts of water to each part of cleaner to reduce pH. Then if local ordinance permits flush into sewer. Otherwise absorb in sand or other inert material & bury in approved landfill.

		PROTECTION INFORMATION
RESPIRATORY PR	unventilated	required; however if used in confined and area, use an approved ammonia mask.
VENTILATION	LOCAL EXHAUST N.A.	SPECIAL
advisable	MECHANICAL (General) Strongly su	iggested, together men
recommended	VES	eye Protection goggles recommended
OTHER PROTECTI	VE EQUIPMENT Not required	

SECTION IX - SPECIAL PRECAUTIONS

Avoid excessive inhalation, particularly in enclosed area. Use with adequate ventilation. Avoid continuous or excessive exposure to skin. Do not splash into other precautions face - particularly eyes - as product is strong soap and would cause eye irritation.

Disclaimer of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

0031-0057

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072

HAZÁRD RÁTÍNG PRE 4-EXTREME 3-HIGH 1-MODERÁTE MÁLÍN 1-SLIGHT DEINSIGNIFICANT	O RELETINITA
SEE SECTION V	Tation .

IDENTITY (As Used on Lie	bel and List) LANCO BI	SADET	Note: Blank špa Informatio	nces are not permitted in is available, the spi	i it any item is not i ace must be marked	applicable, or no to moicale that
Section I						
Manufacturer's Name LAM	CO CHEMICAL CO. I	NC.,	Emergency Tele	phone Number (61	7) 884 – 847	O
Address (Number, Street, C 212	ny. State, and ZIP Code) Arlington Street		Telephone Num	ber for Information (617) 884 <u>–</u> 847	0
CHE	LSEA, MA 02150		Date Prepared		16, 1989	
			Signature of Pre	parer (optional)	roger a	Clean
Section II - Hazardo	us Ingredients/Identit	y Informatio	h		V	
Hazardous Components (Sp	pecific Chemical Identity, Con	nmon Name(s))	ÖSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Alkyl Dimethyl Ber		orides	N.A.	N.A.	N.A.	
Alkyl Dimethyl Eth	ryl Benzyl Ammonie CAS # 68956-7		es N.A.	N.A.	N.A.	
Section III — Physica	I/Chemical Characteris	stics				
Boiling Point		212°F	Specific Gravity (H ₂ O = 1)		1:05
Vapor Pressure (mm Hg)		N.A.	Melting Point			N.A.
Vapor Density (AIR = 1)	greater than	i	Evaporation Rate (Butyl Acetate =	_{t)} slower than	ether	
Solubility in Water	complete					
Appearance and Odor	Color: peac	:h	Almond odor	рн 11.	3	
Section IV — Fire and	Explosion Hazard Da	ala				
Flash Point (Method Used) TCC - None to bo	iling 210° F +		Flammable Limits None determ		LEL N.A.	UEL N.A.
Extinguishing Media	Water or foam					
Special Fire Fighting Procedu	wes Wear self-cont	ained bre	athing appar	atus		
Unusual Fire and Explosion F	lazards Nr.	one known				
······································						

Disclaimer of Liability

Section V -	- Reactivity Da	ta							
Stability	Unstable		Conditions to Avoid						
	Stable	х	None known	·	·				
Incompatibility	(Materials to Avoid	n	Anionic materi	ils, st	rong oxid	izers.			
Hazardous Deco	omposition or Byprod	ducts	N.A.	· · · · · · · · · · · · · · · · · · ·					
Hazardous Polymerization	May Occur		Conditions to Avoid	•					 _
,	Will Not Occur	х	None known						
Section VI -	- Health Hazari	d Data							
Route(s) of Entry	, Int	natation?	X Skin?	Х		Inge	stion? X		
Health Hazards	(Acute and Chronic)	Ácı	ite: Possible eye dama	ge and	/or skin	irritati	on. Po	ssible	irritat:
respirato	ry system.								
		Chroni	c: No chronic data pr	esént l	y availab	le.	•		
Carcinogenicity	NT	F No	IARC I	lonographs	s? No	OSH	A Regulate	d ² No	
Signs and Symp	ioms of Exposure	lrrita	tion of skin, eyes	or res	spiratory	system.	Exce	ssive	inhalati
in unvent	ilated or co	nfined	spaces could cause h	eadach	e and naus	sea.			
Media Concito General, Aggra		May fu	rther aggravate exist	ine sk	in disorde	ers and/	nr res	niratoi	tv allmar
	f swallowed.								-9-22-0 -61
Emergens, and	First Aid Procedures	In c	ase of contact, immed	intolu	flush ou		4 4 4 1	1 4	
Drink lar	east 15 min ge amounts	otes. of fl	For eyes call physiculd to dilute and cefore reuse.	cian.	If swalle	wed DO	NOT :	induce Remove	vomitin
			Handling and Use	_ 	·····				
							• .		
up residue	2. Spilled ma	ateria	d or Spilled Flush with w I may also be absorbe	d in sa	nd or oth	e or al er iner	low to t mate:	dry rial.	and scra
Vaste Disposal M	lethod Comply	with	all local, state and	Fadaral	l regulati		11		
sewer dis	posal, dilut	te pro	duct with large amo	ints o	f water	prior t	locai o dist	ordina osal.	inces all Otherwi
bury in ap	proved landi	H111.	_		,	•			
		•							
Precautions to Be			ing (and/re Other Precautions)						
when not i	n use. KEEP	OUT O	contamination of food F REACH OF CHILDREN. 1	Store Vash up	e in dry thorough	place. ly after	Keep r handl	contai: ing.	ner clos
_									
	- Control Meas								
Respiratory Protect	ction (Specify Type)	None 1	equired if normal ver	tilati	on is mai	ntained	-		
		.A.		Special					
	Mechanica! (Genera	lij Adac	uate	Other	N.A.				
rolective Gloves	Recommended			Protection	Goggles (r facë	shield	recom	mended.
	lothing or Equipmen		Protective apron	recom					
/ork/Hygienic Pra	ctices G	ood ho	usekeeping practices	apply					
			Page 2					1901 - 491 - 52	29/45775

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements

U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

HAZARD RATING	EIE:
4=EXTREME 3=HIGH 2=MODERATE 00E4	REASTING
1.5.IGHT	1 70
SEE SECTION 'VI	SEEGIAL

IDENTITY (As Used on Label and List) LAMCO "DE	WAXER''		ces are not permitted. is available, the space		
Section I					
Manufacturer's Name LAMCO CHEMICAL CO.	INC.,	Emergency Tele;	phone Number	(617) 884-8	3470
Address (Number, Street, Crty, State, and ZIP Code) 212 Arlington Stree	t	Telephone Numb	er for Information	(617) 884-8	470
CHELSEA, MA 02150		Date Prepared	June 25, 19	87	
		Signature of Pre	parer (optional)	Zeoge a	· Claim
Section II - Hazardous Ingredients/Identi	ity Information	1		· · · · · · · · · · · · · · · · · · ·	
Hazardous Components (Specific Chemical Identity Co	ommon Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Mono Ethanolamine (MEA) CAS 141-4		3 ррт	N.A.	N.A.	2 - 4%
Section III — Physical/Chemical Character					
Boiling Point	212° F	Specific Gravity (H ₂ O = 1)		1.01
Victor Pressure (mm Hg.)	ca. water	Metting Point			N.A.
Vapor Density (AIR = 1)	ca. water	Evaporation Rate (Butyl Acetate =		ether	
Solubility in Water Complete					
Appearance and Odor Amber liquid	; Mild odor			рН 11.3	
Section IV — Fire and Explosion Hazard I	Data				
Flash Point (Method Used) TCC - None to boiling 212° F +		Fiammable Limits None det		LEL N.A.	N.A.
Extinguishing Media Water					
Special Fire Fighting Procedures None					
Unusua! Fire and Explosion Hazards None					

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Stable X Do not mix with anything but water Incompatibility (Materials to Avoid) Concentrated or strong exidizing agents. Hazardous Decomposition or Byproducts Possibly some carbon monoxide Hazardous Polymenzation May Occur Conditions to Avoid Will Not Occur X Excessive heat. Section VI — Health Hazard Data Route(s) of Entry Inhalation? X Skin? X Ingestion? X Health Hazards (Acute and Chronic) Acute: Possible irritation of skin or respiratory system. Chronic: No chronic data presently available.	Section V -	- Reactivity Data			······································	· · · · · · · · · · · · · · · · · · ·		
Incompatibility (Materials to Avoid) Concentrated or strong exidizing agents. Mazardous Decomposition or Byproducts Possibly some carbon monoxide Magardous Decomposition or Byproducts Possibly some carbon monoxide Magardous Decomposition or Byproducts Possibly some carbon monoxide Magardous Mag Occur Man Not Occur X Excessive heat. Section VI — Health Hazard Data Revies) of Entry Inhamson? X Sunn' X Ingestion' X Health Hazards (Acute and Dironc) Acute: Possible irritation of skin or respiratory systems. Caronic: No chronic data presently available. Caronogenets NTP? No IARC Monographs? No OSHA Regulated' No Seps and Symptoms of Exposure Tritiation of skin, eyes or respiratory system. Excessive inhalation: Could possibly cause headache and nausea. Medical Conctions Server's Aggranate by Exposure May further aggravate existing skin disorders and/or respiratory ailments. Medical Conctions Server's Aggranate by Exposure May further aggravate existing skin disorders and/or respiratory ailments. Medical Conctions Server's Aggranate by Exposure May further aggravate existing skin disorders and/or respiratory ailments. Medical Conctions Server's Aggranate by Exposure May further aggravate existing skin disorders and/or respiratory ailments. Medical Conctions Server's Aggranate by Exposure May further aggravate existing skin disorders and/or respiratory ailments. Medical Conctions Server's Aggranate by Exposure May further aggravate existing skin disorders and/or respiratory ailments. Medical Conctions Emergency and First Aut Procedures PDES: irrigate with water for at least 15 minutes. If frittation persists seek medical attention. Service Aggranate by Exposure May further aggravate existing skin disorders and/or respiratory ailments. Medical attention. Service Aggranate by Exposure Bypes: irrigate with water for at least 15 minutes. If frittation persists seek medical attention. Descriptions for Safe Handling and Use Medical Republic Medical Aggranate Bypes and Aggranate Bypes and	Stability	Unstable	1	Conditions to Avoid	 			
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Possibly some carbon monoxide Passibly some carbon monoxide Passibly some carbon monoxide Polymerusion May Occur X Excessive heat.	Incompatibility	(Materials to Avoid)	Conce	ntrated or strong oxidi	izing agents	•		
May Occur Conditions to Avoid Properties	Hazardous Deco	emposition or Byprodu	icts	Possibly some carbon or	movide	······································		
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Routes) of Entry enhancen 2 X Sun 2 X Ingestion 2 X Hearth Hazerds (Active and Chronic) Active: Possible irritation of skin or respiratory system. Chronic: No chronic data presently available. Chronic: No chronic data presently system. Chronic data presently system. Chronic data presently system. Chronic data presently system. Chronic Normally not required. Chronic Normally not required. Chronic Normally not required.	Section VI	- Health Hazard	Data					
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Protective Gloves Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended. Other Protective Clothing or Equipment Normally not required.	AGUMETION					1,		
Other Protective Clothing or Equipment Normally not required.						N.A.		
Totality fac required.	Protective Gloves	Rubber or late	x glov	es recommended.	Eye Protection	Goggles or	face shield recomm	mended.
Work/Hygienic Practices Good housekeeping practices apply.	Other Protective	Clothing or Equipmen	11	Normally not r	equired.			
	Work/Hygienic Pr	ractices G	ood ho	usekeeping practices a	pply.			

Page 2

m USGFO 1886-491-529/45775

MATERIAL SAFETY DATA SHEET

Page 1 of 2 Pages

Date:2/1/01 Emergency Phone #: (617) 884-8470 Preparer: George L. Lamm Emergency Response # for Transportation only: Infotrac - 1-800-535-5053

SECTION I - PRODUCT IDENTIFICATION

EXHIBIT "A"- $\frac{2}{2}$

Trade Name: Formula D-325

Chemical Name / synonyms: Cleaner; Floor Finish & Wax Remover.

D.O.T. Description: Compounds, Cleaning Liquid, (Contains: Potassium

Hydroxide), 8, NA-1760, PG III.

HAZARD RATING: Health: 1, Fire: 0, Reactivity: 0, Special: 0.

HMIS KEY: 4=Extreme, 3=High, 2=Moderate, 1=Slight, 0=insignificant

SECTION II - HAZARDOUS INGREDIENTS

Ingredient -	Weight%	- J, LV	- PEL -	CAS #
Ethylyne Glycol Butyl Ether	8	50 ppm	25 ppm	111-76-2
Monoethanolamine (MEA)	6	3 ppm		141-43-5
Potassium Hydroxide	0.7	2MG/M3	2MG/M3	1310-58-3

SECTION III - PHYSICAL DATA

Boiling Point (F) 212° Specific Gravity: 1.07
Vapor Pressure (mm Hg): ca. Water Evaporation Rate (Water=1):

Slower than ether

Vapor Density (Water Vapor = 1):ca. Water ph: 13.6

Solubility in Water: Complete

Appearance and Odor: Color: Light Green - Odor: Slight Pine

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method used) TCC: 200° F

Flammable Limits - Upper: N.A. - Lower: N.A.

Extinguishing Media: As necessary for surrounding fire.

Special fire fighting procedures: None Unusual fire and explosion hazards: None

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to avoid: Do not mix with anything but water.

Incompatibility: Avoid concentrated or strong oxidizing agents.

Hazardous decomposition of products: Carbon monoxide and unidentified

organic compounds may be formed during combustion.

Hazardous Polymerization: Will not occur.

This Material Safety Data Sheet was prepared to comply with the OSHA Hazard Communications Regulations and the Massachusetts Right to Know Law. Disclaimer of Liability.

SECTION VI - HEALTH HAZARD DATA - ROUTES OF ENTRY

Threshold Limit Value: - See Section II.

Acute Effects of Exposure and Overexposure:

Eyes: If splashed into eyes will cause irritation. Skin: Excessive skin contact may cause irritation.

Inhalation: Excessive inhalation may cause headache and/or nausea. Ingestion: Could cause irritation to mouth - esophagus - and stomach.

Chronic Effects of Exposure: No chronic data available.

Emergency and First Aid Procedures:

Eyes: Irrigate with water for at least 15 minutes. If irritation

perists seek medical attention.

Skin: Wash with water. If irritation persists; get medical attention.

Inhalation: Move subject to fresh air; if nausea persists get medical

attention.

Ingestion: Give large amounts of fluid, water or milk to dilute.

SECTION VII - SPILL OR LEAK PROCEDURE.

Steps to be taken if material is released or spilled: Contain spill. Mop up or vacuum, then rinse contaminated area with cold water. Product is infinitely soluable with water. Once more mop up or pick up liquid, this time to reduce slip hazard. Do not allow normal foot traffic until area is dry.

Waste Disposal Methods: Comply with all local state and federal regulations. Solutions with pH of 12.5 or higher should NOT be discharged into sewers until pH has been reduced. Neutralization with mild acids or large amount of water will accomplish this. If water is used, dilute each unspent part of product with at least 10 parts of water. Then IF local ordances permit flush into sewer. Otherwise collect material with suitable absorbent. (sand, earth, etc.) and bury in approved landfill.

SECTION VIII - SPECIAL PROTECTION INFORMATION:

Eye Protection: Approved chemical goggles recommended.
Respiratory Protection: None required in normal ventilated areas.
Ventilation: Highly recommended in confined space or areas. Self contained breathing apparatus may be advisable in extreme cases.
Protective Gloves and/or Clothing: Gloves recommended.

SECTION IX - SPECIAL PRECAUTIONS:

Precautions to be taken in storage and handling: Keep container tightly closed when not in use. Store above 35°F. As with all cleaning products: KEEP OUT OF REACH OF CHILDREN

Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard.
29 CFR 1910-1200 Standard must be
consulted for specific requirements

U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form)

Form Approved
ON'S No. 1218-0072

HAZARD RATING PATE OF CONTROL OF

IDENTITY (AS Used on Labe' and List)
LAYOD HEAVY DUTY CLEAVER & DEGREASER Note: Blank spaces are not permitted if any item is not applicable or no information is available, the space must be marked to indicate that Section | EMERGENCY RESPONSE NUMBER FOR TRANSPORT ONLY: INFOTRAC 1-800-535-5053 Manufacturer's Name LANCO CHE-ICAL COMPANY INC., Emergency Telephone Number (617) 884-8470 Address (Number, Street: City, State, and ZIF Code, Telephone Number for Information (617) 884-8470 Date Prepared Jan 2, 1997 212 Arlington Street Signature of Preparer (optional) CHELSEA, MA 02150 Section II — Hazardous Ingredients/Identity Information Other Limits Hazardous Components (Specific Chemical Identity, Common Namers)) OSHA PEL **ACGIH TLV** Recommended ברכונכסו אם 8 - 9" N.A. 25 ppm 2-Butoxy Ethanol (Ethylene Glycol Butyl Ether) 50 ppm (CAS # 111-76-2) TLV 2MG/M3 2MG/M3 (CAS # 1310 - 58 - 3)2MG/M3 Less than 1% Potassium Hydroxide Section III — Physical/Chemical Characteristics Boiling Point Specific Gravity (H2O = 1) 212° F 1.065 Vapor Pressure (mm Hg) Metting Point N.A. ca. water Vapor Density (AIR = 1) Evaporation Rate slower than ether. ca. water (Butyl Acetate = 1) Solubility in Water pH 13.45 complete Appearance and Odor COLOR: Light amber. ODOR: Pleasant Section IV - Fire and Explosion Hazard Data Flash Point (Method Used) None to boiling 200°F + (TCC) Flammable Limits LEL UEL None determined N.A. N.A. Extinguishing Media Water Special Fire Fighting Procedures None Unusual Fire and Explosion Hazards None

Disclaimer of Liability

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nd/or excessive exposure to skin without wearing protective gloves. Avoid splashing into face, particularly especially es	sater or milk et medical at Section VII — Sept to Be Take ater. Product to not allow red discharged this. If water	First Aid Procedures IN: Wash with we to dilute. GET ttention. — Precautions f thin Case Material is t is infinitely mormal foot train lethod Comply with into sewers unit r is used, dilut	ENES: ater; i IMMEDI or Safe s Releas solubl ific on h all il pH e each	irrigate with water f f irritation persists ATE MEDICAL ATTENTION e Handling and Use ec or Spines Contain sp e with water. Once mor area until dry. local, state & federa has been reduced. Neur unspent part of produ	or at least 15 get medical at INHALATION: h	minutes. If in tention. INCES fove subject wet vacuum, the ck up liquid, Solutions with a cids or lars of the cids or lars of the cids or lars of the cids or the	ritation per TION: Give 1 to fresh air men rinse con this time to pH of 12.5 ge amounts o water. Then	rsists arge a r; if tamina o redu or hig f wate	nausea per ited area with ite slip has ther should ler will accor- cal ordinance
s product is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear roducts, KEEP OUT OF REACH OF CHILDREN. Section VIII — Control Measures Sespiratory Protection (Specify Type) one required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Special N.A. Mechanica (General, Adequate Other N.A. Totactive Gloves Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended.	sternion. So, ater or milk et medical at Section VII — teps to Be Take ater. Product to not allow roll asse Disposa. Me discharged his. If water ermit, flush andfill.	First Aid Procedures IN: Wash with we to dilute. GET ttention. — Precautions f n in Case Material it t is infinitely mormal foot train lethod Comply with into sewers unit r is used, dilut into sewer. Oth	ENES: ater; i IMPEDI or Safe as solubl fic on h all il pH e each erwise	irrigate with water f f irritation persists ATE MEDICAL ATTENTION e Handling and Use ec or Spines Contain sp e with water. Once more area until dry. local, state & federa has been reduced. Neur unspent part of producollect material with	or at least 15 get medical at . INHALATION: h ill. Nop up or pi re mop up or pi l regulations. tralization with at least h suitable absortance.	minutes. If in tention. INCENTONE Subject wet vacuum, the ck up liquid, Solutions with acids or lar st 10 parts of rbent (sand, example).	ritation per TION: Give 1 to fresh air men rinse con this time to pH of 12.5 ge amounts o water. Then earth etc.) a	rsists arge a r; if tamina o redu or hig f wate If lo	tred area with the should less than the should less will according to the should less will be should less with the shoul
respiratory Protection (Specify Type) one required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Local Exhaust N.A. Special N.A.	ater or milk et medical at Bection VII — teps to Be Take ater. Product to not allow roaste Disposa. Me discharged his. If water ermit, flush andfill.	First Ald Procedures IN: Wash with we to dilute. GET ttention. — Precautions f min Case Materia is t is infinitely mormal foot train ethod Comply with into sewers unit r is used, dilut into sewer. Oth Taken in Mandang	EMES: ater; i IMMEDI or Safe i Releas solubl fic on h all il pH e each erwise	irrigate with water f f irritation persists ATE MEDICAL ATTENTION e Handling and Use et or Spilled Contain sp e with water. Once more area until dry. local, state & federa has been reduced. Neur unspent part of productions collect material with	or at least 15 get medical at . INHALATION: h ill. Mop up or pi re mop up or pi l regulations. tralization with at least the suitable absorbable.	minutes. If in tention. INCENTON. INCENT. INCENT	ritation per TION: Give 1 to fresh air this time to pH of 12.5 ge amounts of water. Then earth etc.) at when not in	rsists arge ar; if tamina or reduced or high fraction of the tament of tament of the tament of tamen	tred area with the should larger should larger will according to approve the should continued to the should larger will according to approve the should continued to the should continued to the should continue the should contin
respiratory Protection (Specify Type) one required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Local Exhaust N.A. Special N.A.	ater or milk et medical at section VII— teps to Be Take ater. Product o not allow roaste Disposa. Me discharged his. If water ermit, flush andfill. Precautions to Be and/or excessing product is	First Aid Procedures IN: Wash with we to dilute. GET ttention. — Precautions f in Case Material t is infinitely mormal foot train ethod Comply with into sewers unit into sewers unit into sewer. Oth Taken in Mandan; ive exposure to a strong deterg	ENES: ater; i IMFDI or Safe and Solubl fic on h all il pH ach and Su skin went an	irrigate with water f f irritation persists ATE NEDICAL ATTENTION Handling and Use et or Spined Contain sp e with water. Once more area until dry. local, state & federa has been reduced. Neur unspent part of produced collect material with the collect material without wearing proted excessive skin contains.	or at least 15 get medical at . INHALATION: h ill. Nop up or vire mop up or pi l regulations. tralization with uct with at least h suitable absorbations) Keep contive gloves.	minutes. If in tention. INCENTION. INCENTION. INCENTION	ritation per TION: Give 1 to fresh air to fresh air to fresh air this time to pH of 12.5 ge amounts of water. Then earth etc.) at when not in ng into fac	rsists arge a r; if atamina o redu or hig f wate IF lo and bur use. e, par	nausea perinted area with the should in approve Avoid continuity of the should in approve the should continuity in approve the should continuity in approve the should continuity of the should continue the should
Entitation Loca' Exhaust N.A. Special N.A. Mechanica' (General) Adequate Other N.A. rotective Gloves Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended.	stention. Skeater or milk et medical at Bection VII — teps to Be Take ater. Product o not allow reaste Disposa. Me discharged his. If water ermit, flush andfill. recautions to Bend/or excessis product is roducts, KEEF	First Aid Procedures IN: Wash with we to dilute. GET ttention. — Precautions f min Case Material is t is infinitely mornal foot train ethod Comply with into sewers unturned in the sewer. Oth Taken in Mandang ive exposure to a strong deterge OUT OF REACH O	ENES: ater; i IMMEDI or Safe a Releas solubl fic on h all il pH e each envise skin v ent an F CHIL	irrigate with water f f irritation persists ATE NEDICAL ATTENTION Handling and Use et or Spined Contain sp e with water. Once more area until dry. local, state & federa has been reduced. Neur unspent part of produced collect material with the collect material without wearing proted excessive skin contains.	or at least 15 get medical at . INHALATION: h ill. Nop up or vire mop up or pi l regulations. tralization with uct with at least h suitable absorbations) Keep contive gloves.	minutes. If in tention. INCENTION. INCENTION. INCENTION	ritation per TION: Give 1 to fresh air to fresh air to fresh air this time to pH of 12.5 ge amounts of water. Then earth etc.) at when not in ng into fac	rsists arge a r; if atamina o redu or hig f wate IF lo and bur use. e, par	nausea perinted area with the should in approve Avoid continuity of the should in approve the should continuity in approve the should continuity in approve the should continuity of the should continue the should
Mechanica' (General) Adequate Other N.A. rotective Gloves Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended.	ater or milk et medical at section VII — teps to Be Take ater. Product o not allow reaste Disposa Me discharged his. If water ermit, flush andfill. Trecamions to Be mid/or excessing product is roducts, KEEF dection VIII — espiratory Protection	First Aid Procedures IN: Wash with we to dilute. GET ttention. — Precautions f min Case Material is t is infinitely mormal foot trail ethod Comply with into sewers unto r is used, dilut into sewer. Oth Taken in Handing ive exposure to a strong deterg OUT OF REACH Co — Control Meas tion (Specify Type)	ENES: ater; i IMMEDI or Safe a Releas solubl fic on h all il pH e each erwise and Sio skin went am f CHILL	irrigate with water f f irritation persists ATE MEDICAL ATTENTION to Handling and Use to or Spined Contain spe with water. Once more area until dry. local, state & federa has been reduced. Neur unspent part of produced collect material with the collect material without wearing proted excessive skin contained.	or at least 15 get medical at . INHALATION: h ill. Mop up or re mop up or pi l regulations. It relization with at least h suitable absorbed to the suitable absorbed to the suitable section of the suitable absorbed to extinct gloves.	minutes. If intention. INCES fove subject wet vacuum, the ck up liquid, Solutions with hacids or lar st 10 parts of rbent (sand, e	ritation per TION: Give 1 to fresh air men rinse con this time to pH of 12.5 ge amounts o water. Then earth etc.) a when not in ng into facirritation.	or high fraction of the state o	the should her should her should her should her should her should her will accordant ordinancy in approved the should continue the should be shoul
rotective Gloves Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended.	ater or milk et medical at section VII — teps to Be Take ater. Product to not allow restate Disposa. Me discharged his. If water ermit, flush andfill. recautions to Be addor excessing product is roducts, KEEF ection VIII — espiratory Protectione required	First Aid Procedures IN: Wash with we to dilute. GET ttention. — Precautions f in Case Material t is infinitely mormal foot train ethod Comply with into sewers unit into sewers unit into sewer. Oth Taken in Handing ive exposure to a strong deterge OUT OF REACH Co — Control Meas tion (Specify Type, in normal venti	ENES: ater; i IMFDI or Safe and Solubl ific on h all il pH e each enwise and Su skin w ent an f CHILL ures	irrigate with water f f irritation persists ATE MEDICAL ATTENTION to Handling and Use to or Spined Contain spe with water. Once more area until dry. local, state & federa has been reduced. Neur unspent part of produced collect material with the collect material without wearing proted excessive skin contained.	or at least 15 get medical at . INHALATION: h ill. Nop up or vire mop up or pi l regulations	minutes. If in tention. INCENTION IN	ritation per TION: Give 1 to fresh air men rinse con this time to pH of 12.5 ge amounts o water. Then earth etc.) a when not in ng into facirritation.	or high fraction of the state o	the should her should her should her should her should her should her will accordant ordinancy in approved the should continue the should be shoul
Rubber of faces groves recumended.	ater or milk et medical at section VII — teps to Be Take ater. Product o not allow roaste Disposa. Me discharged his. If water ermit, flush andfill. Precautions to Be and/or excessis product is roducts, KEEF section VIII — tespiratory Protectione required entitation	First Aid Procedures IN: Wash with we to dilute. GET ttention. Precautions f min Case Material it is infinitely mormal foot train ethod Comply with into sewers unto r is used, dilut into sewer. Oth Taken in Handing ive exposure to a strong deterg OUT OF REACH Control Meas ction (Specify Type) in normal ventil Local Exhaust N	ENES: ater; i IMMEDI or Safe a Releas solubl fic on h all il pH e each envise skin v ent an f CHILL ures lated .A.	irrigate with water f f irritation persists ATE NEDICAL ATTENTION e Handling and Use et or Spined Contain spe with water. Once more area until dry. local, state & federa has been reduced. Neur unspent part of productollect material with collect material with thout wearing proted excessive skin contained.	or at least 15 get medical at . INHALATION: h ill. Mop up or n re mop up or pi l regulations. tralization with uct with at least h suitable absorb ctive gloves. act or eye conta	minutes. If in tention. INCENTONE Subject wet vacuum, the ck up liquid, Solutions with acids or lar st 10 parts of rbent (sand, entainer closed Avoid splashing act may cause	ritation per TION: Give 1 to fresh air men rinse con this time to pH of 12.5 ge amounts o water. Then earth etc.) a when not in ng into facirritation.	or high fraction of the state o	the should her should her should her should her should her should her will accordant ordinancy in approved the should continue the should be shoul
Ther Protective Clothing of Equipment Normal Ly not regard and	ater or milk et medical at section VII — teps to Be Take ater. Product o not allow roaste Disposa. Me discharged his. If water ermit, flush andfill. Procautions to Be and/or excessing product is roducts, KEEF section VIII — tespiratory Protection required entitation	First Aid Procedures IN: Wash with we to dilute. GET ttention. Precautions f min Case Material it is infinitely mornal foot train lethod Comply with into sewers unto r is used, dilut into sewer. Oth Taken in Handing live exposure to a strong deterge OUT OF REACH Comply in normal ventification (Specify Type) in normal ventifications Local Exhaust N Mechanical (General	ENES: ater; i IMMEDI or Safe a Releas solubl ific on h all il pH e each envise skin we ent an F CHILL ures Adequa	irrigate with water f f irritation persists ATE NEDICAL ATTENTION to Handling and Use to or Spines Contain spe with water. Once more area until dry. local, state & federa has been reduced. Neur unspent part of produced collect material with thout wearing protes to excessive skin contained. The Canalage Once Procasate to the excessive skin contained spends.	or at least 15 get medical at . INHALATION: h ill. Nop up or re re mop up or pi l regulations. tralization with uct with at least h suitable absorb ctive gloves. act or eye contains special Cther	minutes. If in tention. INCES fove subject fove subject wet vacuum, the ck up liquid, Solutions with acids or lar st 10 parts of rbent (sand, entainer closed Avoid splashing act may cause ained breathing N.A. N.A.	ritation per TION: Give 1 to fresh air men rinse con this time to pH of 12.5 ge amounts of water. Then warth etc.) at when not in ng into factirritation.	or high fraction of the state o	ted area with the should be will accordantly in approved the all cleaning

Material Safety Data Sheet

consulted for specific requirements.

May be used to comply with

OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be

U.S. Department of Labor

Occupational Safety and Health Administration

(Non-Mandatory Form)

Form Approved OMB No. 1218-0072 EXHIBIT "A"-26

HAZARD RATING £#: 4.EXTREME O

MDENTITY (As Used on Label and List)
LAMCO "INSTANT CLEAR" (Glass Cleaner) Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that. Section I Manufacturer's Name Emergency Telephone Number LAMCO CHEMICAL CO. INC., (617) 884-8470 Address (Number, Street Cay, State, and ZIP Code)
212 Arlington Street Telephone Number for Information same Date Prepared July 1, 1987 CHELSEA, MA 02150 Signature of Preparer (optional) le ou Section II — Hazardous Ingredients/Identity Information Other Limits Hazardous Components (Specific Chemica! Identity, Common Name(s)) OSHA PEL ACGIH TLV Recommended % (optional) Isopropyl Alcohol CAS # 67-63-0 400 ppm 18 - 22%500 ppm N.A. 50 ppm 2 - Butoxy Ethanol CAS # 111-76-2 25 ppm N.A. 4 -. 6% (Ethylene Glycol Butyl Ether) Section III — Physical/Chemical Characteristics Boiling Point Specific Gravity (H₂O = 1) 0.975 distillation 170 - 250Vapor Pressure (mm Hg) Melting Point estimated 20 mm N.A. Vapor Density (AIR = 1) Evaporation Bate 1.5 (Bunyl Acetate = 1) slower than ether estimated Solubility in Water complete Bluish liquid - slight ammonia Appearance and Odor 8.61 Hq odor Section IV - Fire and Explosion Hazard Data Flammable Limits none determined Flash Point (Method Used) TCC 1780 F LEL UEL N.A. N.A. **Extinguishing Media** Water (Dilution) Spray, Foam, Dry Chemical CO, Special Fire Fighting Procedures Self contained breathing apparatus recommended for extremely large spills. Unusual Fire and Explosion Hazards Water dilution by 3 - 4 times will minimize combustion hazard.

Disclaimer of Liability

Section V -	Reactivity Data		•						
Stability	Unstable		Conditions to Avoid				· · · · · · · · · · · · · · · · · · ·		
	Stable	x	Do not mix wi	th an	ything	but was	ter		
Incompatibility	(Materials to Avoid)	<u>* </u>	Concentrated	acids	and st	trong or	xidizers		
Mazardous Deco	raposition or Byprodu	cts Wi	111 generate carbon	mono	xide a	nd carbo	on dioxide	when b	urning.
Mazardous Polymerization	May Occur		Conditions to Avoid					d makes high	
•	Will Not Occur	Х	Heat, sparks	and o	pen fla	ames.			
Section VI -	- Health Hazard	Data		•				·	
Route(s) of Entry	inha	ation?	X E	X			Ingestic	_M X	
Health Hazards (Acute and Chronic,	Acut	e: Possible irrita	tion	of skir	or res	piratory	svstem.	
			nic: No chronic da				 _		
						<u> </u>			
Carcinogenicity	NTF	² No		ARC Mo	ographs?	No	OSHA	Regulated?	No
Signs and Symp	noms of Exposure Po	ossi)	ole irritation of s	kin,e	yes or	respir	atory syst	em. If	inhaled in h
oncentrati	ons may cause	di	ziness & nausea.]	Ingest	ion ma	y cause	gastric o	istress	,nausea & vo
Medical Condition	ns	Mav	further aggravat	e ex	sting	skin	disorders	and/or	r respirato
Je ie o y ngg bi		lmen							
Emernent and			S: Flush with wate						
DO <u>NOT</u> IND	UCE VOMITING.	GET	ve several glasse: IMMEDIATE MEDICAL fe Handling and Use			or wate	- CO UII	uce sto	
			sed or Spiled COMBUSTIBLE	MATER	TAL No	-tilete d	Pomore	50,7750	of imitim
possible di	lute with water i	to rec	duce combustion hazard. pration. Vapor is heavi	Absort	with in	nert mate	rial (sand,	earth et	c.) and remove
<u>.</u>									
ermit, disp ewer systen	oose of by di: n. If local la	luti: wsD(ALL LOCAL, STATE ng with large amou NOT ALLOW SEWER f vapors bury in ap	nts c DISPO	of wate SAL co	er and llect :	flushing material v	same 1	nto accepted
Precautions to I Keep cor and	tainer clo	sed ne.	when not in the Like all do	use. eterg	ents	and	y from cleani I L D R	ng p	sparks products:
	- Control Measi				· · · · ·				
			In confined spaces a se	1f con		reathing	apparatus is	advisabl	e.
Ventilation	Local Exhaust No.				Special	N.A.			
	Mechanica! (General	Rec	commended		Other	N.A.			
Protective Gloves	Rec	ommeı	nded	Eye Pi	plection les or	face s	hield rec	ommende	1.
Other Protective	Clothing or Equipmen	rt	Normally not	requir	ed				
WorldHygienic Pi	ractices Good	d hou	sekeeping practice	es app	ly.				

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form) (Non-Mandatory Form)

Form Approved OMB No. 1218-0072 EXHIBIT "A"

HAZARD RATING F 18 1 0 0 NIFICANT ECTION 'V SPETIA

LAMCO "LIQUI-SUDS" (Liquid)	Hand Dish Wash)	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that:				
Section I		····				
Manufacturer's Name LAMCO CHEMICAL	Emergency Telephone Number	(617) 884-8	470 **			
Address (Number, Street, City, State, and ZIP C 212 Arlington S	od∈) Street	Telephone Number for Information same	** Or Local H	Poison Cente		
CHELSEA, MA 02	150	Date Prepared July 21,	1987			
		Signature of Preparer (optional)	Oseo ge	C. Cear		
Section II — Hazardous Ingredients/	Identity Information		Y			
Hazardous Components (Specific Chemical Iden	ntity, Common Name(s))	OSHA PEL ACGIH TLV	Other Limits Recommended	% (optional)		
Components not classified		ture or concentration.				
·						
Section III — Physical/Chemical Cha	racteristics					
	racteristics	Specific Gravity (H ₂ O = 1)		1.020		
Section III — Physical/Chemical Cha Boiling Point Vapor Pressure (mm Hg.)		Specific Gravity (H ₂ O = 1) Metting Point		1.020 N.A.		
Boiling Point Vapor Pressure (mm Hg.)	212 ° F	Metting Point	than ether.			
Boiling Point Vapor Pressure (mm Hg) Vapor Density (AIR = 1)	212 ° F ca. water ca. water	Metting Point Evaporation Rate Slower	than ether.			
Boiling Point Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water complete	212 ° F ca. water ca. water	Metting Point Evaporation Rate (Butyl Acetate = 1) Slower	than ether.			
Boiling Point Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water complete Appearance and Odor Pink - slight	212 ° F ca. water ca. water	Metting Point Evaporation Rate (Butyl Acetate = 1) Slower				
Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water complete Appearance and Odor Pink - slight Section IV - Fire and Explosion Haz	212 ° F ca. water ca. water ly viscous liqui	Metting Point Evaporation Rate (Butyl Acetate = 1) Slower				
Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water complete Appearance and Odor Pink - slight Section IV — Fire and Explosion Haz Flash Point (Method Used) TCC None to boiling 2	212 ° F ca. water ca. water ly viscous liqui	Metting Point Evaporation Rate (Butyl Acetate = 1) Id; flowery odor Flammable Limits	рН 6	N.A.		
Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water complete Appearance and Odor Pink - slight Section IV - Fire and Explosion Haz Flash Point (Method Used) TCC None to boiling 2 Extinguishing Media Water	212 ° F ca. water ca. water ly viscous liqui	Metting Point Evaporation Rate (Butyl Acetate = 1) Id; flowery odor Flammable Limits	рН 6	N.A.		
Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water complete Appearance and Odor Pink - slight Section IV - Fire and Explosion Haz Flash Point (Method Used) TCC - None to boiling 2 Extinguishing Media Water	212 ° F ca. water ca. water ly viscous liqui	Metting Point Evaporation Rate (Butyl Acetate = 1) Id; flowery odor Flammable Limits	рН 6	N.A.		

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Section V -	- Reactivity Data						
Stability	Unstable		Conditions to Avoid				
	Stable	Х	Do not mix wi	th any	thing	but wat	ter
Incompatibility	(Materials to Avoid)	Str	ong acids and con-	centra	ted ox	cidizing	g agents.
Hazardous Dec	omposition or Byprodu	cts	Possibly carbon m	nonoxio	——— 1e		
Hazardous	May Occur	<u> </u>	Conditions to Avoid				
Polymerization	Will Not Occur	x	Extreme tempe	rature	s hot	or col	
Section VI	- Health Hazard		Extreme compe	racure	3, 1100	. 01 001	
Route(s) of Ent			N.A.	Skin? X			Ingestion?
Health Hazards	(Acute and Chronic)		None known.	^	· 		
							7
<u></u>						, .	
Carcinogenicity.	NTP	[?] No		IARC Moi	nographs?	No	OSHA Regulated? No
Signs and Sym	ptoms of Exposure	f us	ed excessively wi	thout	gloves	and ov	ver long periods could possibly
ause skin	irritation. If	spl	ashed into eyes w	ill ca	use ir	ritatio	on.
Medical Conditi	ons	e of	product if skin	rash	or s	imilar	problem exists on hands, wou
	aggravate the						
mergency and	First Aid Procedures	VEC	Fluck with low			of ::0*:	er for at least 15 minutes.
f irritati otion. If	on persists, §	get n rsist	nedical attention. ss get medical att	SKIN:	Wash	with wa	arm water; dry and apply hand Administer water or milk to
			Handling and Use				
				tator	s away	floor	may be slippery. SMALL SPILLS
iop up or v	vet vacuum; le	t ar	ea dry. LARGE SPII separate containe	LLS: D	ike aı	nd cont	ain with inert material (san
							ulations. If local ordinance
llow sewer	disposal, di	lute	material with lar	rge a mo	ounts	of wate	r prior to disposal. Otherwis of in approved sites or landfil
Precautions to B	e Taken in Handling a	nd Sto	ring (and/ce Other Precaut	tions)			
			not in use. KEEP (•	DEACH	OF CUI	Index
eep contai	mers crosed w	iie ii	not In use. KLLI (01 01	KLKCII	or chi	LDKLN
Section VIII -	- Control Measur	es					
Respiratory Prote	ction (Specify Type) No	ne r	equired if good a	nd nor	mal ve	entilat:	ion is maintained.
/entilation		Α.			Special	N.A.	
t	Mechanical (General)	Ada	quate		Other	N.A.	
Protective Gloves	Reco	mmen	<u> </u>	Eye Pro	tection I	Recommen	nded
Other Protective	Clothing or Equipment		Normally not	needed			
Nork/Hygienic Pr	actices Good	hou	sekeeping practic				
••	GOOL	. 1100	seveehing braceic	ca whh	- y •		

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Material Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard, (Non-Mandatory Form) 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration

Form Approved OMB No. 1218-0072 EXHIBIT "A"- 28

HAZARD RATING 101 4.EXTREME REACTION HEICANT ETION 'VI

EDENTITY (As Used on Label and List) LAMCO "LIQUID HAND SOAP"		Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that				
Section (
Manufacturer's Name LANCO CHEMICAL CO. I	NC.,	Emergency Telephone Numbe:	(617) 884-8	470 **		
Address (Number, Street, City, State, and ZIP Code) 212 Arlington Street	:	Telephone Number for Information same *	* Or Local P	oison Center		
CHELSEA, MA 02150		Date Prepared July 22,	^			
		Signature of Preparer (optional)	loge G	Ceaun		
Section II — Hazardous Ingredients/Identit	y Information					
Hazardous Components (Specific Chemical Identity, Con	mmon Name(s))	OSHA PEL ACGIH TLV	Other Limits Recommended	% (optiona!)		
Components not classified hazardo	ous by natu	re or concentration.				
Section III — Physical/Chemical Characteri	stics	Specific Gravity (H ₂ O = 1)		1.016		
Vapor Pressure (mm Hg)	ca. water	Metting Point		N.A.		
Vapor Density (AIR = 1)	ca. water	Evaporation Rate slower than ether (Butyl Acetate = 1)				
Solubility in Water complete						
Appearance and Odor Amber liquid, faint	but non-de	scriptive odor. pH	9.4			
Section IV — Fire and Explosion Hazard D	ata					
Flash Point (Method Used) TCC None to boiling 200° F p	lus	Flammable Limits none determined	LEL N.A.	N.A.		
Exinguishing Media Water						
Special Fire Fighting Procedures None		·				
Unusual Fire and Explosion Hazards None						

Disclaimer of Liability

Section V -	Reactivity Data					
Stability ·	Unstable		Conditions to Avoid	Oo not mix	with anythin	ng but water
	Stable	х				
Incompatibility	(Materials to Avoid)	St	rong acids and/o	or concent	rated oxidiz:	ing agents.
Hazardous Deco	mposition or Byprodu	cts	Possibly carl	on monoxi	de	
Hazardous Polymerization	May Occur		Conditions to Avoid			
Tolymentation	Will Not Occur		Excessive hea	a t		
Section VI -	- Health Hazard	X Data				
Route(s) of Entry		ation? N	J . A .	Skin? N.A.		Ingestion? N.A.
Health Hazards (Acute and Chronic)		e: May irritate			
		Chro	onic: No chronic	data pres	ently availal	ble
Carcinogenicity.	NTP	No		IARC Monogra	iphs? No	OSHA Regulated? No
Signs and Sympt	oms of Exposure	Iri	itation of eyes	or skin.	· · · · · · · · · · · · · · · · · · ·	
Medical Condition	ns	May a	iggravate existin	ne skin di	sorders.	
Generally Aggrav	ated by Exposure					
			ATE MEDICAL ATTE Handling and Use			
						vacuum,then rinse contamin
			nitely soluable not allow normal			mop up & pick up liquid, until drv.
						ns. If local ordinances
low sewer d	isposal, dilu	te ma	terial with wate	er prior t	o disposal. (Otherwise collect product ites or landfill.
			not in use. Do KEEP OUT OF R	not spla		· · · · · · · · · · · · · · · · · · ·
	- Control Measu					
	non (specify type) N	one r	equired in norma			
Ventilation	Local Exhaust N.	Α.		Spe	N.A.	
	Mechanical (General)		Adaquate	Oth	N.A.	
Protective Gloves	N.A.			Eye Protecti		uct is used excessively.
Other Protective (Nothing or Equipment		N.A.	- CCOMMIC	II DIOU	
Work/Hygienic Pra	ctices				* d n n n == 1 ==	
			Good housekee	ping prac	Lices apply	

Lamco Chemical Company, Inc., 212 Arlington St. Chelsea, MA 02150

MATERIAL SAFETY DATA SHEET

Page 1 of 2 Pages

Date: Jan. 2, 2003. Emergency Phone #:(617)884-8470 Preparer: George L. Lamm Emergency Response # for Transportation only: Infotrac - 1-800-535-5053

SECTION I - PRODUCT IDENTIFICATION

3M ID #: 11-0021-3098-4

Trade Name: MR-50 Special Cleaner

Chemical Name: Special Cleaner and Degreaser.

D.O.T. Description: Non-Hazardous - Formula: Mixture.

HAZARD RATING: Health: 1, Fire: 0, Reactivity: 0, Special: -

HMIS KEY: 4=Extreme, 3=High, 2=Moderate, 1=Slight, 0=insignificant

SECTION II - HAZARDOUS INGREDIENTS

Ingredient 용 🗕 TLV -PEL - CAS # Ethylene Glycol Butyl Ether - 4.67 - 50 Ppm - 25 Ppm - 111-76-2

SECTION III - PHYSICAL DATA

Boiling Point: 212°F. Specific Gravity: 1.06 Vapor Pressure (mm Hq): ca. Water Evaporation Rate(Water=1): Slower than ether.

pH: 12.2 Vapor Density(Water Vapor=1):ca.Water

Solubility in Water: Complete

Appearance and Odor: Color: Blue - Odor: Pleasant.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method used) TCC: None to Boiling (200° F +) Flammable Limits - Upper: N.A. - Lower: N.A. Extinguishing Media: As necessary for surrounding fire. Special fire fighting procedures: None Unusual fire and explosion hazards: None

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to avoid: Do not mix with anything but water.

Incompatibility: (Avoid) Concentrated or strong oxidizing agents.

Hazardous decomposition of products: carbon monoxide and unidentified organic compounds may be formed during combustion.

Hazardous Polymerization: Will not occur.

This Material Safety Data Sheet was prepared to comply with the OSHA Hazard Communications Regulations and the Massachusetts Right to Know Law. Disclaimer of Liability.

SECTION VI - HEALTH HAZARD DATA - ROUTES OF ENTRY

Threshold Limit Value: - See Section II.

Acute Effects of Exposure and Overexposure:

Eyes: If splashed into eyes will cause irritation. Skin: Excessive skin contact may cause irritation.

Inhalation: Excessive inhalation may cause headache and/or nausea.

Ingestion: Could cause irritation to mouth - esophagus - and stomach.

Chronic Effects of Exposure: No chronic data available.

Emergency and First Aid Procedures:

Eyes: Irrigate with water for at least 15 minutes. If irritation

perists seek medical attention.

Skin: Wash with water. If irritation persists; get medical attention.

Inhalation: Move subject to fresh air; if nausea persists get medical

attention.

Ingestion: Give large amounts of fluid, water or milk to dilute.

SECTION VII - SPILL OR LEAK PROCEDURE.

Steps to be taken if material is released or spilled: Contain spill. Mop up or vacuum, then rinse contaminated area with cold water. Product is infinitely soluable with water. Once more mop up or pick up liquid, this time to reduce slip hazard. Do not allow normal foot traffic until area is dry.

Waste Disposal Methods: Comply with all local state and federal regulations. Solutions with pH of 12.5 or higher should NOT be discharged into sewers until pH has been reduced. Neutralization with mild acids or large amount of water will accomplish this. If water is used, dilute each unspent part of product with at least 10 parts of water. Then IF local ordances permit flush into sewer. Otherwise collect material with suitable absorbent. (sand, earth, etc.) and bury in approved landfill.

SECTION VIII - SPECIAL PROTECTION INFORMATION:

Eye Protection: Approved chemical goggles recommended. Respiratory Protection: None required in normal ventilated areas. Ventilation: Highly recommended in confined space or areas. Self contained breathing apparatus may be advisable in extreme cases. Protective Gloves and/or Clothing: Gloves recommended.

SECTION IX - SPECIAL PRECAUTIONS:

Precautions to be taken in storage and handling: Keep container tightly closed when not in use. Store above 35°F. As with all cleaning products:

KEEP OUT OF REACH OF CHILDREN

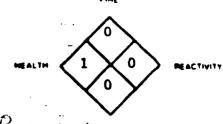
Revised Sept. 1986

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

IATERIAL SAFETY DATA SHEET

MAZARD RATING

- . EXTREME
- 3 = MIGH 3 = MODERATE
- 1 = SLIGHT 0 = MISIGNIFICANT



SECTION I

MANUFACTURER'S NAME

LAMCO CHEMICAL COMPANY, INC.

ADDRESS Wumber, Smarl Ciry Suite, and ZIP Code; A O2150

CHEMICAL NAME AND SYNONYMS

Amine Soap

CHEMICAL FAMILY

Anionic Soap

EMERGENCY TELEPHONE NO.

(617) 884-8470

TRADE NAME AND SYNONYMS

Miracle Cleaner

FORMULA

N.A.

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS		N.A.	BASE METAL		N.A.
CATALYST		N.A.	ALLOYS		N.A.
VEHICLE		N.A.	METALLIC COATINGS		N.A.
SOLVENTS		N.A.	FILLER METAL PLUS COATING OR CORE FLUX		N.A.
ADDITIVES		N.A.	OTHERS		N.A.
OTHERS .					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES					
Isopropyl Alcohol CAS #67-63-	-0			6	400
					Ppm

	SEC.	TION III - F	PHYSICAL DATA	
BOILING POINT (F.)		N.A.	SPECIFIC GRAVITY (H ₂ O=1)	.985
VAPOR PRESSURE (mm Hg.)		N.A.	PERCENT, VOLATILE	87
VAPOR DENSITY (AIR-1)	- 	N.A.	EVAPORATION RATE (ether
SOLUBILITY IN WATER		complete	pH .	8.8
APPEARANCE AND ODOR	Color: lig	ht tan	Odor: light pine	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA									
FLASH POINT (Method used) Tag Closed Cup none to boiling point 200° F. +	FLAMMABLE LIMITSnone		Uei						
EXTINGUISHING MEDIA WATER									
SPECIAL FIRE FIGHTING PROCEDURES none									
UNUSUAL FIRE AND EXPLOSION HAZARDS									

SECTION V - HEALTH HAZARD DATA						
THRESHOLD LIMIT VALUE See Section II	·					
EFFECTS OF OVEREXPOSURE See Section IX	· 					
EMERGENCY AND FIRST AID PROCEDURES Eyes: slight irritation possible. If accidentally splashed into eyes, flu	ısh					
with water. If irritation persists, call physician.						
with water. It filled for persists, out pripagate						

SECTION VI - PEACTIVITY DATA									
STABILITY	UNS	UNSTABLE		CONDITION	CONDITIONS TO AVOID				
	STA		Х	Do not mix with anything but water.					
INCOMPATABIL	ITY (Mater	riels to evoid)	Acids	and Oxid:					
HAZARDOUS D	COMPOSI	TION PRODU	CTS	Pos	ssibly some Carbon Monoxide				
HAZARDOUS MAY OCCUR		R		CONDITIONS TO AVOID					
POLYMERIZATI	ON	WILL NOT	DCCUR	Х	Exessive heat				

SECTION VII - SPILL OR LEAK PROCEDURES STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED							
water							
WASTE DISPOSAL MET	This is a mild, biodegradable vegetable oil soap. If local						
	ordinance permits, flush into sewer, otherwise bury in approved landfil						
							

	SECTION VIII -	SPECIAL PI	ROTECTION II	NFORMATION
RESPIRATORY P	ROTECTION (Specify type)	None requi	red	
VENTILATION	LOCAL EXHAUST	Non	e required.	SPECIAL N. A.
·	MECHANICAL (General)	Non	e required.	OTHER N.A.
PROTECTIVE GLOVES Not needed		EYE PROTECTION		n recommended
OTHER PROTECT	IVE EQUIPMENT None	required.		

SECTION IX - SPECIAL PRECAUTIONS						
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING						
Product is a mild soap avoid splashing into eyes.						
OTHER PRECAUTIONS						
KEEP OUT OF REACH OF CHILDREN						

Discisimer of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

0031-0075

Material Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard, (Non-Mandatory Form) 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration

Form Approved OMB No. 1218-0072

EXHIBIT "A"-3/

HAZARD RATING o` 4.EXTREME **/**o` 1 NIFICANT ECTION 'V

EDENTITY (As Used on Label and LIST LAMCO ''PINE CLEANER & D		Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that			
Section I		_			
Manufacturer's Name LANCO CHE	MICAL CO. INC.,	Emergency Telephone Number (617) 884-8470 ***			
Address (Number, Street, City, State, 212 Arlin		elephone Number for Information same ** Or Local Poison Center			
CHELSEA,	MA 02150	ale Prepared July 21, 1987			
	Sış	gnature of Preparer (optional) Those Gilletin			
Section II — Hazardous Ingre	edients/Identity Information	4			
Hazardous Components (Specific Che	mica! Identity, Common Name(s)) O	Other Limits DSHA PEL ACGIH TLV Recommended % (optional)			
Components not cl	assified hazardous by na	ture or concentration.			
Section III — Physical/Chemi	cal Characteristics				
Boiling Point	212° F Spe	ecific Gravity (H ₂ O = 1) 0.985			
Vapor Pressure (mm Hg.)	ca. water Me	etting Point N.A.			
Vapor Density (AIR = 1)	i ca. Wateri	aporation Rate Slower than ether utyl Acetate = 1)			
Solubility in Water CO	mplete				
Appearance and Odor Amber li	quid, distinctive pine o	odor. pH 11			
Section IV — Fire and Explos	ion Hazard Data				
Flash Point (Method Used) TCC. — None to	boiling 200° F plus. no	immaple Limits one determined LEL N.A. V.A.			
Extinguishing Media Wa	ter				
Special Fire Fighting Procedures No	ne				
Unusual Fire and Explosion Hazards	None				

Disclaimer of Liability

Section V -	Reactivity Data	1			
Stability	Unstable		Conditions to Avoid		
	Stable	X	Do not mix with anything bu	it water	
Incompatibility (Materials to Avoid)	Conce	ntrated or strong oxidizing ag	ents.	
Hazardous Decor	mposition or Byprodu	icts	Possibly some carbon monoxide		
Hazardous	May Occur	T	Conditions to Avoid		
Polymerization	Will Not Occur	x	Excessive heat.		
Section VI -	· Health Hazard	Data			
Route(s) of Entry		lation?	X Skin? X		Ingestion?
Health Hazards (Acute and Chronic)	Acute	Possible irritation of skin	or receivators auctor	
			ic: No chronic data presently		•
		GIFOIL	ic: No circuit data presently	avallante.	
Carcinogenicity.	NTP	⁷ No	MARC Mon	ographs? No	OSHA Regulated? No
Signs and Sympt					
Signs and Sympi			tion of skin, eyes or respirat	ory system. Excessive	invalation: could possibly
		ause I	neadache and nausea.		
Medical Condition General, Aggravi	ns ated by Exposure M	lay fu	rther aggravate existing skin	disorders and/or resp	iratory ailments.
Emergency and I	First Aid Procedures	EVEC.	irricate with water for at le	act 15 minutes. If im	ritation persists seek medical
attention. SK	IN: Wash with wa	ter: i	irrigate with water for at le	ical attention. INCES	TICN: Give large amounts of fluids
					to fresh air; if nausea persists
get medical at				•	•
Section VII -	- Precautions fo	or Saf	e Handling and Use		
Steps to Be Take	n in Case Materia' Is	Releas	ed or Spilled Contain spill. Mop	up or wet vacuum, the	en rinse contaminated area with
	•		•	p or pick up liquid,	this time to reduce slip hazard.
Do not allow m	normal foot traf	fic or	area until dry.		
Waste Disposa!	Method Comp I v	with	all local, state and	federal regulation	ons. If local ordinances
allow sewe	r disposal,	dilu	ite material with large	amounts of wa	ter prior to disposal.
Otherwise o	collect produ	ct a	nd dispose of in approve	d sites or landfi	11.
					-
				•	when not in use. Avoid continued
					ng into face, particularly eyes,
•				ye contact may cause :	irritation. As with all cleaning
products, KEE	POUT OF REACH O	F. CHTT	IREN.		•
Section VIII	- Control Meas	ures			-
Respiratory Prote	ection (Specify Type)]	None required in normal	ventilated areas.	
Ventilation	Local Exhaust N.			Special	
	Mechanical (Genera		Adaquate	N.A.	
Protective Gloves		•	Eve Pr	otection	
	Rubber or Clothing or Equipment		gloves recommended.	Goggles or f	ace shield recommended.
			Normally not requi	red.	
WorldHygienic P	ractices God	od ho	ousekeeping practices ap	ply.	

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, (Non-Mandatory Form) 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration Form Approved

HAZARD RATING	EIRS O
4-EXTREME	\wedge \wedge
3-HIGH 2-MODERATE MEAN	1 O REACTIVETY
105LIGHT	
CTION 'VI	Z × Zebe civ
CITOR V	V

	MB No. 1218-00	EXHII	BIT "A"- <u>32</u>			
IDENTITY (As Used on Label and List) LAMCO SPE	ED STRIP	Note: Blank spa information	ces are not permitted. In is available, the space	any item is not i must be marked	applicable, or no to indicate that	
Section I						
Manufacturer's Name LAMCO CHEMICAL COMPAN	Y, INC.	Emergency Tele	phone Number	(617) 884-84	470	
Address (Number, Street, City, State, and ZIP Code)		Telephone Number for Information (617) 884–8470				
212 Arlington Street		Date Prepared	June 20, 1987			
CHELSEA, MA 02150	Signature of Pre	parer (optional)	Zogo C	Ceaum		
Section II — Hazardous Ingredients/Ider	ntity Information	n				
Hazardous Components (Specific Chemical Identity;	Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)	
2-Butoxy Ethanol (Ethylene Glycol Butyl)		25 ppm	50 ppm	N.A.	8 - 9%	
(CAS # 111-70 Monoethanolamine (MEA) (CAS # 141-43-5	0-2)	N.A.	3 ppm	N.A.	5 - 7%	
Section III — Physical/Chemical Characte	eristics					
Boiling Point	212° F	Specific Gravity (H ₂ O = 1)		1.07	
Vapor Pressure (mm Hg.)	ca. Water	Melting Point			N.A.	
Vapor Density (AIR = 1)	ca. water	Evaporation Rate (Butyl Acetate =	elawr f	han ether		
Solubility in Water	complete					
Appearance and Odor COLOR: Light	green ODOR: S	light pine scen	nt pH 1:	3.6		
Section IV — Fire and Explosion Hazard	Data					
Flash Point (Method Used) ICC. None to boiling 200 F +		Flammable Limits	None determined	LEL N.A.	UEL N.A.	
Extinguishing Media Water						
Special Fire Fighting Procedures None						
Unusual Fire and Explosion Hazards None			· · · · · · · · · · · · · · · · · · ·			
						

Disclaimer of Liability

Stability	 Reactivity Data 	•					
	Unstable		Conditions to Avoid			<u>-</u>	-
	Stable	х	Do not mix with am	ything but wate	er		
Incompatibility	(Materials to Avoid)	Conce	ntrated or strong oxid	dizing agents.			
Hazardous Deco	omposition or Byprodu	cts	Possibly same carbon i	monoxi de			i to with
Hazardous	May Occur		Conditions to Avoid			· · · · · · · · · · · · · · · · · · ·	
Polymerization	Will Not Occur	X	Excessive he	at			
Ozadina Wi	No. Mb. Manard		Excessive lie	81.			
Route(s) of Entry	- Health Hazard	lation?		Skin?	 	Ingestion?	
	(4			<u> </u>		-	<u> </u>
FIESTER FIESE US	(ACDIE BIO CHOINC)	Acute	Possible irritation	of skin or res	piratory syste	em.	
		Chron	ic: No chronic data pr	resently availa	ble.	·	
	·····						
Carcinogenicity.	NTP	? No		IARC Monographs	? No	OSHA Regul	ated? No
Signs and Symp	otoms of Exposure I	rrita	ion of skin, eyes or	respiratory sy	stem. Excessiv	e inhalation	: Could possibly
	C	ause l	eadache and nausea.	·		 	
Medical Conditio	ons		**				
General, Aggra	valed by Exposure E	ay Iu	ther aggravate existi	ing skin disord	ers and/or res	spiratory air	ments.
cet medical a	ttention.			1. INHALATION:	Move subject	to fresh at	ir; if nausea persist
Section VII - Steps to Be Take water. Produc Do not allow: Waste Disposal No be discharged this. If wate permit, flush landfill.	- Precautions to en in Case Material is it is infinitely normal foot traf Method Comply wit into sewers unt into sewers unt into sewer. Oth	or Safe Release solublific or hall il pH e each erwise	e Handling and Use ed or Spilled Contain sp e with water. Once mo area until dry. local, state & federa	oill. Mop up or process of present of process of proces	wet vacuum, tick up liquid, Solutions with acids or lands ast 10 parts corbent (sand,	then rinse co this time to the pH of 12.5 arge amounts of water. The earth etc.)	or higher should NOT of water will accompling IF local ordinances and bury in approved
Section VII - Steps to Be Take water. Produc Do not allow: Waste Disposal Note discharged this. If wate bermit, flush landfill. Precautions to Be and/or excess as product is	- Precautions to en in Case Materia is it is infinitely normal foot traff Method Comply with into sewers unter is used, dilute into sewer. Other into sewer other is used into sewer. Other is used into sewer other in the transport of the transport in the sewer in Handling in the exposure to entire the sewer in the se	Present and Store and Store skin vent and store store and store skin vent and skin	e Handling and Use ed or Spilled Contain sp e with water. Once me area until dry. local, state & federa has been reduced. Neu unspent part of prod collect material wit	oill. Mop up or pal regulations. utralization with at leth suitable absuitable absuitable active gloves.	wet vacuum, to ick up liquid, Solutions with acids or last 10 parts corbent (sand, ontainer close Avoid splash	then rinse co, this time to the pH of 12.5 arge amounts of water. The earth etc.) and the thing into facility into	or higher should NOT of water will accompling IF local ordinances
Section VII - Steps to Be Take water. Produc Do not allow Waste Disposal Note discharged this. If wate permit, flush landfill. Precautions to Be and/or excess as product is products, KEE	Precautions to en in Case Materia is it is infinitely normal foot traff Method Comply with into sewers until into sewers until into sewer. Other into sewer. Other into sewer in Handling in into sewer in Handling in its exposure to east a strong deterging the into sewer in Handling in its exposure to east a strong deterging the into sewer.	Present and Storent and F CHIL	e Handling and Use ed or Spilled Contain sp e with water. Once me area until dry. local, state & federa has been reduced. Neu unspent part of prod collect material wit	oill. Mop up or pal regulations. utralization with at leth suitable absuitable absuitable active gloves.	wet vacuum, to ick up liquid, Solutions with acids or last 10 parts corbent (sand, ontainer close Avoid splash	then rinse co, this time to the pH of 12.5 arge amounts of water. The earth etc.) and the thing into facility into	or higher should NOT of water will accompling IF local ordinances and bury in approved to use. Avoid continued to, particularly eyes
Section VII - Steps to Be Take water. Produc to not allow Waste Disposal Note discharged this. If wate permit, flush landfill. Precautions to Be and/or excess as product is products, KEE Section VIII - Respiratory Prote	Precautions to en in Case Materia is it is infinitely mormal foot traff Method Comply with into sewers unter is used, diluted into sewer. Other to sever to enter the exposure to enable exposure exposure to enable exposure exposur	Present and Store and Stor	e Handling and Use ed or Spilled Contain sp e with water. Once no area until dry. local, state & federa has been reduced. Neu unspent part of prod collect material wit ring (and/re Other Procau without wearing prote d excessive skin cont DREN.	oill. Mop up or present of presen	wet vacuum, to ick up liquid, Solutions with acids or latest 10 parts of orbent (sand, ontainer close Avoid splash tact may cause	then rinse con this time to the pH of 12.5 arge amounts of water. The earth etc.) and when not in thing into factorization.	or higher should NOT of water will accompling in IF local ordinances and bury in approved in use. Avoid continued to, particularly eyes As with all cleaning
Section VII - Steps to Be Take water. Produc Do not allow: Waste Disposal Note discharged this. If wate permit, flush landfill. Precautions to Be and/or excess as product is products, KEE Section VIII - Respiratory Prote None required	Precautions to the in Case Materia is it is infinitely mormal foot traff Method Comply with into sewers until into sewers until into sewer. Other is used, diluted into sewer. Other is exposure to a strong deterging Pour of REACH Office Control Measureton (Specty Type) in normal ventil	Present and Store and Stor	e Handling and Use ed or Spilled Contain sp e with water. Once me area until dry. local, state & federa has been reduced. Neu unspent part of prod collect material wit	oill. Mop up or present of presen	wet vacuum, tick up liquid, Solutions with acids or last 10 parts corbent (sand, ontainer close Avoid splash tact may cause	then rinse con this time to the pH of 12.5 arge amounts of water. The earth etc.) and when not in thing into factorization.	or higher should NOT of water will accompling in IF local ordinances and bury in approved in use. Avoid continued to, particularly eyes As with all cleaning
Section VII - Steps to Be Take water. Product Do not allow: Waste Disposal Note discharged this. If wate permit, flush landfill. Precautions to Be and/or excess as product is products, KEE Section VIII - Respiratory Prote None required	Precautions to the in Case Materia is it is infinitely mormal foot traff Method Comply with into sewers until into sewers until into sewer. Other is used, diluted into sewer. Other is exposure to a strong deterging Pour of REACH Office Control Measureton (Specty Type) in normal ventil	Present Store Safe Safe Safe Safe Safe Safe Safe Saf	e Handling and Use ed or Spilled Contain sp e with water. Once no area until dry. local, state & federa has been reduced. Neu unspent part of prod collect material wit ring (and/re Other Procau without wearing prote d excessive skin cont DREN. areas. In confined sp	oill. Mop up or pre mop up or pal regulations. utralization with at leth suitable abstractive gloves. Eact or eye contacts, self contacts, self contacts.	wet vacuum, to ick up liquid, Solutions with acids or last 10 parts of orbent (sand, ontainer close Avoid splash tact may cause tained breathi	then rinse con this time to the pH of 12.5 arge amounts of water. The earth etc.) and when not in thing into factorization.	or higher should NOT of water will accompling in IF local ordinances and bury in approved in use. Avoid continued to, particularly eyes As with all cleaning
Section VII - Steps to Be Take water. Produc Do not allow Waste Disposal No be discharged this. If wate permit, flush landfill. Precautions to Be and/or excess as product is products, KEE Section VIII - Respiratory Prote None required Ventulation	Precautions to en in Case Materia is it is infinitely mormal foot traff Method Comply with into sewers until into sewers until into sewer. Other is used, diluted into sewer. Other is exposure to a strong deterging Pour of REACH Official Control Measuretion (Specify Type) in normal ventil Local Exhaust N	Present Store Safe Safe Safe Safe Safe Safe Safe Saf	e Handling and Use ed or Spilled Contain sp e with water. Once no area until dry. local, state & federa has been reduced. Neu unspent part of prod collect material wit ring (and/re Other Precau without wearing prote d excessive skin cont DREN. areas. In confined sp ate	oill. Mop up or pre mop up or pal regulations. utralization with at leth suitable abstractions) Keep cective gloves. Eact or eye conspaces, self conspecial	wet vacuum, to ick up liquid, Solutions with acids or last 10 parts of orbent (sand, ontainer close Avoid splash tact may cause tained breathin N.A. N.A.	then rinse con this time to the pH of 12.5 arge amounts of water. The earth etc.) and when not in thing into factorization.	or higher should NOT of water will accompling in IF local ordinances and bury in approved in use. Avoid continued to, particularly eyes As with all cleaning may be advisable.
Steps to Be Take water. Produc Do not allow: Waste Disposal Note that the discharged this. If wate permit, flush landfill. Precautions to Be and/or excess as product is products, KEE Section VIII - Respiratory Prote None required Ventilation Protective Gloves	Precautions to en in Case Materia is it is infinitely mormal foot traff Method Comply with into sewers until into sewers until into sewer. Other is used, diluted into sewer. Other is exposure to a strong deterging Pour of REACH Official Control Measure to it is used, distributed in the exposure to a strong deterging Pour of REACH Official Control Measure in normal ventil Local Exhaust Numbershanical (General)	Present and Store and Stor	e Handling and Use ed or Spilled Contain sp e with water. Once no area until dry. local, state & federa has been reduced. Neu unspent part of prod collect material wit ring (and/re Other Precau without wearing prote d excessive skin cont DREN. areas. In confined sp ate	oill. Mop up or present on the property of the	wet vacuum, to ick up liquid, Solutions with acids or last 10 parts of orbent (sand, ontainer close Avoid splash tact may cause tained breathin N.A. N.A.	then rinse co, this time to this time to the pH of 12.5 arge amounts of water. The earth etc.) and when not in thing into fact irritation.	or higher should NOT of water will accompling in IF local ordinances and bury in approved in use. Avoid continued to, particularly eyes As with all cleaning may be advisable.

Page 2

. USGPO 1886-491-329/45775

Lamco Chemical Company, Inc., 212 Arlington St. Chelsea, MA 02150

MATERIAL SAFETY DATA SHEET

Page 1 of 2 Pages

Date: Emergency Phone #: (617) 884-8470 Preparer: George L. Lamm Emergency Response# for Transportation only: Infotrac - 1-800-535-5053

SECTION I - PRODUCT IDENTIFICATION

EXHIBIT "A"-<u>33</u>

Trade Name: SIZZLER

Chemical Name / synonyms: RUG CLEANER AND DETERGENT

D.O.T. Description: COMPOUNDS, CLEANING.

HAZARD RATING: Health:1, Fire:0, Reactivity:0, Special:0. .

HMIS KEY: 4=Extreme, 3=High, 2=Moderate, 1=Slight, 0=insignificant

SECTION II - HAZARDOUS INGREDIENTS

Ingredient - Weight% - TLV - PEL - CAS# 2-Butoxy Ethanol 14 - 17% 50 ppm 25 ppm 111-76-2

SECTION III - PHYSICAL DATA

Boiling Point (F) 212° Specific Gravity: .995 Vapor Pressure (mm Hg) ca. Water Evaporation Rate (Water=1):

Solubility in Water: Complete

Appearance and Odor: Water colored slightly viscous liquid. Odorless.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method used) TCC: None to boiling 200° F plus. Flammable Limits - Upper: N.A. - Lower: N.A.

Extinguishing Media: Water

Special fire fighting procedures: None Unusual fire and explosion hazards: None

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to avoid: Do not mix with anything but vater. Incompatibility: Avoid strong acids or concentrated oxidizers. Hazardous decomposition of products: Possibly carbon monoxide. Hazardous Polymerization: Will not occur.

This Material Safety Data Sheet was prepared to comply with the OSHA Hazard Communications Regulations and the Massachusetts Right to Know Law. Disclaimer of Liability.

Page two

SECTION VI - HEALTH HAZARD DATA - ROUTES OF ENTRY:

Threshold Limit Value: - See Section II.

Acute Effects of Exposure and Overexposure:

Eyes: If splashed into eyes will cause irritation.

Skin: May irritate extremely sensitive skin.

Inhalation: Non expected with acqueous solutions and mixtures. Ingestion: In case of accidental swallowing, consult a doctor at once.

(See section on Emergency procedures and First Aid). Chronic Effects of Exposure: No chronic data available.

EMERGENCY AND FIRST AID PROCEDURES:

Eyes: Irrigate with water for at least fifteen minutes. If

irritation persists, seek medical attention.

Skin: Wash with soap and water. If irritation persist get medical

attention.

Inhalation: not applicable.

Ingestion: In case of accidental swallowing, administer 3 to 4

glasses of water. Do not induce vomitting. Obtain medical attention and/or hospital treatment as soon as possible.

SECTION VII - SPILL OR LEAK PROCEDURE.

Steps to be taken if material is released or spilled: Contain spill. Mop-up or wet vac area. Then rinse contaminated area with water. Product is a water soluble detergent. Once more mop-up area or pick up liquid, this time to reduce slip hazard. Do not allow normal foot traffic until area is dry.

Waste Disposal Methods: Comply with all local, state and federal regulations. IF local or state ordinances permit, flush into sewer. Otherwise collect material with a suitable absorbent. (Sand, earth, etc.) and bury in approved landfill.

SECTION VIII - SPECIAL PROTECTION INFORMATION:

Eye Protection: Approved chemical goggles recommended.

Respiratory Protection: None required in normal ventilated areas.

Ventilation: Recommended in confined spaces.

Protective Gloves and/or Clothing: gloves recommended.

SECTION IX - SPECIAL PRECAUTIONS:

Precautions to be taken in storage and handling: Keep container tightly closed when not in use. Store above 35° F.

KEEP OUT OF REACH OF CHILDREN

EXHIBIT "A"- $\frac{37}{}$

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

HAZARD RATING

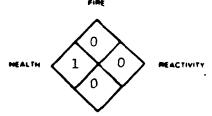
4 = EXTREME

3 = HIGH

2 = MODERATE

1 = SLIGHT

0 = INSIGNIFICANT



SECTION I

MANUFACTURER'S NAME

LAMCO CHEMICAL COMPANY, INC.

ADDRESS (Number, Street, City, State, and ZIP Code)
212 Arlington Street, Chelsea, MA 02150

CHEMICAL NAME AND SYNONYMS
Carpet Pre-Spotter

CHEMICAL FAMILY
liquid detergent

SECTION I

EMERGENCY TELEPHONE NO.
(617) 884-8470

TRADE NAME AND SYNONYMS
Lamco STINGER

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE]	METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		,,
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURE	s of (OTHER LI	DUIDS, SOLIDS, OR GASES	*	TLV (Units)
Ethylene Glycol Butyl Etho	er C	AS #1:	11-76-2	8.2	25 p
Isopropyl Alcohol			7-63-0	4.65	

SECTION III - PHYSICAL DATA								
BOILING POINT (°F.)		N.A.	SPECIFIC GRAVITY (H2O=1)	1.042				
VAPOR PRESSURE (mm Hg.)		N.A.	PERCENT, VOLATILE BY VOLUME (%)	89				
VAPOR DENSITY (AIR=1) N.A. EVAPORATION RATE slower than ether								
SOLUBILITY IN WATER	C	omplete	рН	12.8				
APPEARANCE AND ODOR	reddish/aml	ber	light cherry-almond fragram	nce				

SECTION IV - FIRE AND EXPLOSION HAZARD DATA								
FLASH POINT (Method used) Tag Closed Cup none to boiling point 200 F.+	FLAMMABLE LIMITS	اما	Uei					
EXTINGUISHING MEDIA Water								
SPECIAL FIRE FIGHTING PROCEDURES NONE								
UNUSUAL FIRE AND EXPLOSION HAZARDS	······································							
none	 							
•								

	A	SECTION	V - HEA	LTH HAZARD DATA
THRESHOLD LIN	tion II			
EFFECTS OF OV	EREXPOSURE	kin irrita	tion.	(See Section IX below.)
EMERGENCY AN				
				te for 15 minutes. Get medical vater. If irritation persists, get
				ve large amounts of fluids; citrus
iuice or	milk pref	erable. G	et medi	cal attention.
		SECTIO	NVI - P!	EACTIVITY DATA
STABILITY	UNSTABLE		CONDITION	S TO AVOID
	STABLE	Х		
INCOMPATABILI	TV (Materials to a	rold)		
HAZARDOUS DE	COMPOSITION P	RODUCTS		
HAZARDOUS	1	DCCUR		CONDITIONS TO AVOID
POLYMERIZATIO		NOT OCCUR	x	

SECTION VII - SPILL OR LEAK PROCEDURES
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Normal procedure for spillage of liquid soaps. Flush with water.
WASTE DISPOSAL METHOD
Flush to sewer if local ordinance permits. Otherwise bury in local
sanitary fill approved by local, state and federal authorities as a
disposal site.

<u> </u>	ite.			
	SECTION VIII - SPEC	CIAL PROTECTION IN	NFORMATION	
RESPIRATORY PR	IOTECTION (Specify type)	,		
VENTILATION	LOCAL EXHAUST		SPECIAL	
	MECHANICAL (General)		OTHER	
PROTECTIVE GLO	VES	EYE PROTECTION		
recommend	ed	gogales r	ecommended	
OTHER PROTECT	VE EQUIPMENT			

SECTION IX - SPECIAL PRECAUTIONS PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Avoid continued and/or excessive exposure to skin without wearing protective gloves. Avoid splashing into face -- particularly eyes -OTHER PRECAUTIONS as product is a strong detergent and excessive skin or eye contact may cause irritation.

Disclaimer of Liability

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As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

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Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, (Non-Mandatory Form 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form

Company Appropriate Company Section 'V)

Form Approved OMB No. 1218-0072 **EXHIBIT** "A"-<u>35</u>

HAZARD RATING FIRE SPECIA.

LAMCO	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.				
Section I					
Manufacturer's Name LAMCO CHEMICAL CO	MPANY, INC.	Emergency Telephone	Number (617) 884-8470	
Address (Number, Street, City, State, and ZIP Code	Telephone Number to	r Information			
212 Arlington Str	same,	or local P	oison Cente	r	
CHELSEA, MA 0215	60	Date Prepared Nov	vember 10,	1987	
		Signature of Preparer	(optional)	oge Gi	Ceam
Section II — Hazardous Ingredients/Ide	entity Information	n		4	
Hazardous Components (Specific Chemical Identity,	Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
?-Butoxy Ethanol (Ethylene Gly	cal Bueni Feb	25 nom	50 ppm	N.A.	2.5- 3%
		T			T
	eteristics	Specific Gravity (H ₂ O	- 1)		1.04
Boiling Point		Specific Gravity (H ₂ O Melting Point	- 1)		1.04 N.A.
Boiling Point Vapor Pressure (mm Hg.)	212° F	Melting Point	= 1) slower than e	ther	
Boiling Point Vapor Pressure (mm Hg) Vapor Density (AIR = 1)	212° F ca. water	Melting Point Evaporation Rate		ther	N.A.
Boiling Point Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water	212° F ca. water ca. water	Melting Point Evaporation Rate (Butyl Acetate = 1)		рН 12	N.A.
Boiling Point Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water Appearance and Odor COLOK: Re	212° F ca. water ca. water complete dish-amber	Melting Point Evaporation Rate (Butyl Acetate = 1)	slower than e	рН 12 ty	N.A.
Boiling Point Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water Appearance and Odor COLOR: Re Section IV — Fire and Explosion Hazard	212° F ca. water ca. water complete dish-amber d Data	Melting Point Evaporation Rate (Butyl Acetate = 1)	slower than e	рН 12	N.A.
Vapor Pressure (mm Hg) Vapor Density (AIR = 1) Solubility in Water Appearance and Odor COLOR: Re Section IV — Fire and Explosion Hazard Flash Point (Method Used) None to boiling 20	212° F ca. water ca. water complete dish-amber d Data	Melting Point Evaporation Rate (Butyl Acetate = 1)	slower than e	рН 12 ty	N.A.
Section IV — Fire and Explosion Hazard Flash Point (Method Used) None to boiling 20	212° F ca. water ca. water complete dish-amber d Data	Melting Point Evaporation Rate (Butyl Acetate = 1)	slower than e	рН 12 ty	N.A.

Disclaimer of Liability

As conditions or methods of use are beyond our control, we do not assume any responsibilities and expressly disclaim any liability for use of the material. The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Decilon v -	- Reactivity Data	9					
Stability	Unstable	1	Conditions to Avoid	<u> </u>			
	Stable	х	Do not mix with any	ything but water			
Incompatibility	(Materials to Avoid)	Conce	ntrated or strong oxid	dizing agents.			
	emposition or Byprod	ucts	Possibly some carbon i		<u> </u>		
Hazardous	May Occur		Conditions to Avoid	in the state of th		<u>. </u>	
Polymerization	Will Not Occur						
	Will Not Geed	X	Excessive he	at.	_		
	- Health Hazard						
Route(s) of Entry	y" Inh. 	alation?	X	Skin? X		Ingestion?	x
Health Hazards	(Acute and Chronic)	Acute	: Possible irritation	of skin or resp	iratory system	l•	
		Chron	ic: No chronic data pr	resently availab	ole.	· · · · · · · · · · · · · · · · · · ·	
			<u></u>				
Carcinogenicity	NT	P? No		IARC Monographs?	No	OSHA Regulat	red? No
Signs and Symp	noms of Exposure	Irrita	tion of skin, eyes or	respiratory sys	stem. Excessive	inhalation:	Could possibly
		cause l	headache and nausea.	···			
Medical Conditio Generally Aggray	vated by Exposure	May fu	rther aggravate exist:	ing s kin disorde	ers and/or resp	iratory ailm	ents.
attention. Sk	TIM: Masu Mitu M	acer; :	irrigate with water if irritation persists	s get medical at	cention. INGES	TION: Give I	arge amounts of flui-
Section VII - Steps to Be Take water. Produc Do not allow: Waste Disposal Note discharged this. If wate permit, flush landfill.	en in Case Material it is infinitely normal foot trained the comply will into sewers unit into sewer. Other controls were controls when the controls were controls will into sewer. Other controls were controls were controls with the control were contro	or Saf s Release solub. Iffic on the all ril pH te each nerwise	e Handling and Use sed or Spiled Contain spile with water. Once me area until dry. local, state & federa has been reduced. Net in unspent part of processor collect material with	pill. Mop up or proper mop up or proper mop up or proper mop up or proper more more more more more more more mo	wet vacuum, the ck up liquid, Solutions with acids or larest 10 parts of orbent (sand, e	en rinse cont this time to pH of 12.5 of ge amounts of water. Then arth etc.) an	taminated area with reduce slip hazar or higher should NOT f water will accompl IF local ordinances and bury in approved
Section VII - Steps to Be Take water. Produc Do not allow: Waste Disposal Note discharged this. If wate permit, flush Landfill. Precautions to B and/or excess as product is	Precautions for in Case Material in the infinitely mormal foot trained for the into sewers under into sewers. Other Taken in Handling ive exposure to	or Safes solub. Ffic or half ril pH te each nerwise skin gent ar	e Handling and Use sed or Spilled Contain spille with water. Once me area until dry. Tocal, state & federa has been reduced. Neuron unspent part of process collect material with the collect material without wearing protected excessive skin control of the contact of the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact was a second contact without wearing protected excessive skin contact with the contact without wearing protected excessive skin contact with the contact was a second excessive skin contact with the contact with the contact was a second excessive skin contact with the contact with the contact with the contact with the contact was a second excessive skin contact with the contact	pill. Mop up or proper mop up or proper mop up or proper mop up or proper more more more more more more more mo	wet vacuum, the ck up liquid, Solutions with acids or larest 10 parts of orbent (sand, expending the color of	en rinse continue to pH of 12.5 oge amounts of water. Then arth etc.) and when not in ng into face	taminated area with reduce slip hazar or higher should NOT f water will accompl IF local ordinances and bury in approved use. Avoid continues, particularly eyes
Section VII - Steps to Be Take water. Product to not allow Waste Disposal Mode discharged this. If wate bermit, flush landfill. Precautions to B and/or excess as products, KEE	e Taken in Handling ive exposure to a to dilute. GET attention. Precautions for in Case Material it is infinitely mornal foot trained to the comply will into sewers under its used, diluted into sewer. Other thanks of the composure to a strong determined to dilute the composure to a strong determined to dilute to dilute the composure to a strong determined to dilute to dilute the composure to dilute to dilute the composure to dilute the composure to dilute to dilute the composure to dilute the composure to dilute the composure to dilute.	or Safers solub. If it pH te each nerwise skin gent ar OF CHIL	e Handling and Use sed or Spilled Contain spille with water. Once me area until dry. Tocal, state & federa has been reduced. Neuron unspent part of process collect material with the collect material without wearing protected excessive skin control of the contact of the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact was a second contact without wearing protected excessive skin contact with the contact without wearing protected excessive skin contact with the contact was a second excessive skin contact with the contact with the contact was a second excessive skin contact with the contact with the contact with the contact with the contact was a second excessive skin contact with the contact	pill. Mop up or proper mop up or proper mop up or proper mop up or proper more more more more more more more mo	wet vacuum, the ck up liquid, Solutions with acids or larest 10 parts of orbent (sand, expending the color of	en rinse continue to pH of 12.5 oge amounts of water. Then arth etc.) and when not in ng into face	taminated area with reduce slip hazar or higher should NOT f water will accompl IF local ordinances and bury in approved use. Avoid continues, particularly eyes
Section VII - Steps to Be Take Section VII - Steps to Be Take Section VII - Steps to Be Take Section VIII -	er Taken in Handling ive exposure to a strong determined to the control Mease control	or Safes solub. Fic or Saf	e Handling and Use sed or Spilled Contain spille with water. Once me area until dry. Tocal, state & federa has been reduced. Neuron unspent part of process collect material with the collect material without wearing protected excessive skin control of the contact of the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact and the contact without wearing protected excessive skin contact was a second contact without wearing protected excessive skin contact with the contact without wearing protected excessive skin contact with the contact was a second excessive skin contact with the contact with the contact was a second excessive skin contact with the contact with the contact with the contact with the contact was a second excessive skin contact with the contact	pill. Mop up or proper more more more more more up or proper more up or proper more more up or proper	wet vacuum, the ck up liquid, Solutions with a cids or lar ast 10 parts of orbent (sand, expending the container closed Avoid splashing act may cause	en rinse continue to pH of 12.5 oge amounts of water. Then arth etc.) and when not in ng into faccirritation.	taminated area with reduce slip hazardor higher should NOT f water will accompl IF local ordinances and bury in approved use. Avoid continues, particularly eyes As with all cleaning
Section VII - Steps to Be Take water. Produc Do not allow Waste Disposal No be discharged this. If wate permit, flush landfill. Precautions to B and/or excess as product is products, KEE Section VIII - Respiratory Prote None required	er in Case Material it is infinitely mornal foot trained the first infinitely mornal foot trained into sewers under its used, diluted into sewer. Other into sewer.	or Safes solub. Fic or Saf	e Handling and Use sed or Spiled Contain spile with water. Once me area until dry. Tocal, state & federa has been reduced. Neuron unspent part of processor collect material with the collect material without wearing protected excessive skin contains.	pill. Mop up or proper more more more more more up or proper more up or proper more more up or proper	wet vacuum, the ck up liquid, Solutions with a cids or lar ast 10 parts of orbent (sand, expending the container closed Avoid splashing act may cause	en rinse continue to pH of 12.5 oge amounts of water. Then arth etc.) and when not in ng into faccirritation.	taminated area with reduce slip hazardor higher should NOT f water will accompl IF local ordinances and bury in approved use. Avoid continues, particularly eyes As with all cleaning
Section VII - Steps to Be Take Water Produc Do not allow Waste Disposal Note discharged this. If wate permit, flush landfill. Precautions to B and/or excess as product is products, KFE Section VIII - Respiratory Prote	er in Case Material it is infinitely mornal foot trained the first infinitely mornal foot trained into sewers under its used, diluted into sewer. Other into sewer.	or Safers solub. Series solub. Ser	e Handling and Use sed or Spilled Contain spilled With water. Once me area until dry. Tocal, state & federa has been reduced. Neuropent part of process collect material with the collect material with the content of excessive skin content. TOREN. areas. In confined spilled.	oill. Mop up or proper model with at less that suitable absolutions). Keep continuous, see the continuous of the proper model with a pro	wet vacuum, the ck up liquid, Solutions with a acids or lar ast 10 parts of orbent (sand, e act may cause	en rinse continue to pH of 12.5 oge amounts of water. Then arth etc.) and when not in ng into faccirritation.	taminated area with reduce slip hazardor higher should NOT f water will accompl IF local ordinances and bury in approved use. Avoid continues, particularly eyes As with all cleaning
Section VII - Steps to Be Take water. Product to not allow Waste Disposal More discharged this. If wate bermit, flush landfill. Precautions to B and/or excess as product is products, KEE Section VIII - Respiratory Prote lone required	to dilute. GET attention. — Precautions for in Case Material it is infinitely mormal foot trained foot trained foot trained foot trained foot trained foot sewers unit into sewers unit into sewer. Other into sewer. Other foot of the exposure to a strong determined foot of REACH (Control Measure in normal vent: Local Exhaust in Mechanica! (General Mechanica! (Gene	or Safers solub. ffic or hall ril pH te each nerwise skin gent ar DF CHIL ures ilated N.A.	e Handling and Use sed or Spilled Contain spilled With water. Once me area until dry. Tocal, state & federa has been reduced. Neuropent part of process collect material with the collect material with the content of excessive skin content. TOREN. areas. In confined spilled.	poill. Mop up or proper model with at less than suitable absorbations). Keep continuous access, self continuous paces, self continuous	wet vacuum, the ck up liquid, Solutions with a cids or largest 10 parts of orbent (sand, expending the color splashing act may cause	en rinse continue to fresh air en rinse continue to ph of 12.5 oge amounts of water. Then arth etc.) and when not in ng into faccirritation.	taminated area with reduce slip hazar or higher should NOT f water will accompl IF local ordinances and bury in approved use. Avoid continues, particularly eyes As with all cleaning may be advisable.
Section VII - Steps to Be Take water. Product to not allow Waste Disposal More discharged this. If wate beamit, flush landfill. Precautions to B and/or excess as product is products, KEE Section VIII - Respiratory Prote fore required Venulation	to dilute. GET attention. — Precautions for in Case Material it is infinitely mormal foot trained foot trained foot trained foot trained foot trained foot sewers unit into sewers unit into sewer. Other into sewer. Other foot of the exposure to a strong determined foot of REACH (Control Measure in normal vent: Local Exhaust in Mechanica! (General Mechanica! (Gene	or Safers solub. ffic or hall til pH te each nerwise skin gent ar DF CHIL ures llated N.A.	e Handling and Use sed or Spilled Contain spilled With water. Once me area until dry. Tocal, state & federa has been reduced. Neurospent part of process collect material with the collect material with the content of excessive skin contained spilled. The first action persists and use of the content of th	poill. Mop up or proper	wet vacuum, the ck up liquid, Solutions with the acids or lar ast 10 parts of orbent (sand, expending the state of the color of the col	en rinse continue to fresh air en rinse continue to ph of 12.5 oge amounts of water. Then arth etc.) and when not in ng into faccirritation.	taminated area with reduce slip hazar or higher should NOT f water will accompl IF local ordinances and bury in approved use. Avoid continues, particularly eyes As with all cleaning may be advisable.

Page 2

- USGPO 1986-491-529/45775

MATERIAL SAFETY DATA SHEET

HAZARO RATING

4 = EXTREME

3 = MIGH 2 = MODERATE

2 - MODERATE 1 - SLIGHT

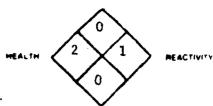


EXHIBIT "A"-36

SECTION	1
MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
LAMCO CHEMICAL CO., INC.	(617) 884-8470
ADDRESS (Number, Street, Ciry, State, and ZIP Code) 212 Arlington Street, Chelsea, MA 02150	
CHEMICAL NAME AND SYNONYMS Ammonium Hydroxide	TRADE NAME AND SYNONYMS
Inorganic Basis	NH ₃ in solution (NH ₄ OH)

SECTION	4 II •	HAZAF	RDOUS INGREDIENTS		
PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURE	S OF (THER LI	QUIDS. SOLIDS, OR GASES	*	TLV (Units)
Ammonia CAS #7664-41-7			6	. 3	50
					ppm

SECTION III - PHYSICAL DATA						
BOILING POINT (°F.)	85	SPECIFIC GRAVITY (H2O=1)	.975			
VAPOR PRESSURE (mm Hg.)	·	PERCENT, VOLATILE	93.7			
VAPOR DENSITY (AIR+1)		EVAPORATION RATE (ner			
SOLUBILITY IN WATER	complete					
APPEARANCE AND ODOR Colorless	liquid char	acteristic ammonia odor				

SECTION IV - FIRE AND EXPLOSION HAZARD DATA							
FLASH POINT (Method used) TIOTIC	FLAMMABLE LIMITS ammonia vapor	انف	Uel				
EXTINGUISHING MEDIA							
SPECIAL FIRE FIGHTING PROCEDURES non-flammable under usual conditions							
UNUSUAL FIRE AND EXPLOSION HAZARDS							
·							

MATERIAL SAFETY DATA SHEET

2 = MODERATE 1 = BLIGHT

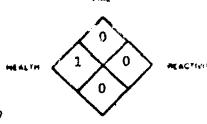


EXHIBIT "A"-<u>37</u>

	SECTION I	
MANUFACTURER'S NAME		EMERGENCY TELEPHONE NO.
LAMCO CHEMICAL COMPANY, INC.		(617) 884-8470
ADDRESS (Number Street City State and ZIP Code) 212 Arlington Street, Chelsea, MA	02150	
CHEMICAL NAME AND SYNONYMS potassium soap		TRADE NAME AND SYNONYMS Super Stripper
CHÉMICAL FAMILY anionia	FORMULA	

SECTION	N 11 -	MAZAN	RDOUS INGREDIENTS		
PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		. ,
VEHICLE			METALLIC COATINGS		
SOLVENTS			PILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS .					
NAZARDOUS MIXTUR	es of	OTHER LI	DUIDS, SOLIDS, OR GASES	*	TLV (Units)
Ethanolamine CAS #141-43-5			2	.7_	3 рр
Ethylene Glycol Monobutyl Et	her	CAS #11	.1-76-2 1	.35	50 pp
Isopropyl Alcohol CAS #67-	63-0		1	.2	400 p

	SECTION III - F	PHYSICAL DATA	
BOILING POINT (OF.)	N.A.	SPECIFIC GRAVITY (H20=1)	1.010
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT, VOLATILE BY VOLUME (%)	84
VAPOR DENSITY (AIR=1)	N.A.	EVAPORATION RATE slower than	ether
SOLUBILITY IN WATER	complete	рН	11.2
APPEARANCE AND ODOR GOLG	r: amber	Odor: pleasant	aran aran aran da Maria aran da Maria aran aran aran aran aran aran aran

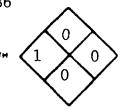
SECTION IV - FIRE AN	ND EXPLOSION HAZARD DAT	ΓA	
PLASH POINT (Method used) Tag Closed Cup none to boiling point 200° F. +	PLAMMABLE LIMITS	اهـن	Uel
EXTINGUISHING MEDIA WATER			
SPECIAL FIRE FIGHTING PROCEDURES DODE			
	The second secon	and the second s	
UNUSUAL FIRE AND EXPLOSION HAZARDS DODE	ستعلق والمنافعة والمراوا والمنافعة والمنافعة والمنافعة والمنافعة والمنافعة والمنافعة والمنافعة والمنافعة والمنافعة	anning to American the state of	
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MATERIAL SAFETY DATA SHEET

Revision 4-16-86

HAZARD RATING

- 4 EXTREME
- 3 = HIGH
- 2 MODERATE
- 1 = SLIGHT



REACTIVITY

MEALTH (

EXHIBIT "A"-38

	SPECIFIC
SECTION	ON I
LAMCO CHEMICAL COMPANY, INC.	EMERGENCY TELEPHONE NO. (617) 884-8470
ADDRESS (Number, Street, City, State, and ZIP Code) 212 Arlington Street, Chelsea, MA	02150
CHEMICAL NAME AND SYNONYMS	LAMCO MINT DEODORANT CLEANER
Buffered Soap (Liquid Detergent)	FORMULN.A.

PAINTS, PRESE	RVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND MET	ALLIC COATINGS	*	TLV (Units)
PIGMENTS	N.A.			BASE METAL	N.A.		
CATALYST	N.A.			ALLOYS	N.A.		
VEHICLE	N.A.			METALLIC COATINGS	N.A.		
SOLVENTS	N.A.			FILLER METAL PLUS COATING OR COR	EFLUX N.A.		
ADDITIVES	N.A.			OTHERS	N.A.		
OTHERS							-
	HAZARDOUS MIXTURE	S OF C	THER LI	DUIDS, SOLIDS, OR GASES	3	*	TLV (Units)
Isopropy	1 Alcohol CAS	∦67-	6 3- 0			10	400
							ppm
							

	SEC	TION III - P	HYSICAL DATA	
BOILING POINT (°F.)		212	SPECIFIC GRAVITY (H2O=1)	0.986
VAPOR PRESSURE (mm Hg.)	estim.	20 mm	PERCENT, VOLATILE BY VOLUME (%)	85
VAPOR DENSITY (AIR=1)	estim.	1.5	EVAPORATION RATE (ether
SOLUBILITY IN WATER		complete	рН	10.4
APPEARANCE AND ODOR 1:	ight greer	mint c	odor.	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA								
FLASH POINT (Method used) Tag Closed Cup none to boiling point 200° F.+	FLAMMABLE LIMITS	Lei	Uel					
EXTINGUISHING MEDIA WATER								
SPECIAL FIRE FIGHTING PROCEDURES N.A.								
UNUSUAL FIRE AND EXPLOSION HAZARDS								

SECTION V - HEALTH HAZARD DATA
THRESHOLD LIMIT VALUE See Section II EFFECTS OF OVEREXPOSURE May cause eye and skin irritation.
May cause eye and skin irritation.
Contains: isopropyl alcohol, soap, pine oil and methyl salicylate.
If swallowed or ingested, call physician. Eyes: Elush with water
and irrigate for 15 minutes. Get medical attention.

SECTION VI - PEACTIVITY DATA									
STABILITY	UNS	TABLE		CONDITIONS TO AVOID					
	STA	PLE	Х						
INCOMPATABIL HAZARDOUS DI		riels to evoid)	·						
HAZARDOUS		MAY OCCUR			CONDITIONS TO AVOID				
POLYMERIZATION WILL NOT		WILL NOT OCC	UR	X					

SECTION VII - SPILL OR LEAK PROCEDURES
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Flush with water if possible or allow to dry and scrape up residue:
spilled material may also be absorbed in sand or other inert material.
waste disposal method If material is diluted with water, flush to sewer if local ordinance
permits. Otherwise, use sanitary land fill approved by local, state and federal authorities as a disposal site.
- and rederal adenorieres as a disposal site.

	SECTION VIII - SPECIAL PI		
TE HEAD THE	т естюм (Specify type) th normal ventilation, no	no romiro	7
VENTILATION	LOCAL EXMAUST (Only if product is used	-	SPECIAL
	(MECHANICAL (General) confined a	rea.)	OTHER
Recommended	15	Recommende	ı ≥d
None requi	E EQUIPMENT red.		

SECTION IX - SPECIAL PRECAUTIONS
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Do not splash into eyes.
OTHER PRECAUTIONS Keep out of reach of children.

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As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

Material Safety Data Sheet

May be used to comply with DSHA's Hazard Communication Standard, (Non-Mandatory For 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory For

OMB No. 1218-0072 EXHIBIT "A"-39

HAZARD RATING ER 0

IDENTITY (As Used on Label and List) LAMCO FORMULA 4x2 SPECIA	L CLEANER	Note: Blank spaces are not permitted. I information is available, the space	if any item is not ap e must be marked t	oplicable, or no orindicate that.
Section I			-	
Manufacturer's Name LAMCO CHEMICAL CO. 1	INC.,	Emergency Telephone Numbe:	(617) 884-84	470 **
Address (Number, Street, City, State, and ZIP Code) 212 Arlington Street		Telephone Number for Information same **	Or Local Po	oisan Center
CHELSEA, MA 02150		Date Prepared July 22, 198	7	
		Signature of Preparer (optional)	Rose C	Ceacin
Section II - Hazardous Ingredients/Identif	ty Information	1	V	
Hazardous Components (Specific Chemical Identity, Co	mmon Name(s))	OSHA PEL ACGIH TLV	Other Limits Recommended	% (optional)
Components not classified hazar	dous by na	ture or composition		
		·		
Section III — Physical/Chemical Characteri	istics			
Boiling Point	212 ° F	Specific Gravity (H ₂ O = 1)		1.005
Vapor Pressuré (mm Hg.)	ca. water	Metting Point		N.A.
Vapor Density (AIR = 1)	ca. water	Evaporation Rate (Butyl Acetate = 1) slower than	ether	
Solubility in Water complete				
Appearance and Odor Amber liquid - sli	ght pine o	or pH 1:	1.4	
Section IV — Fire and Explosion Hazard D	ata			
Flash Point (Method Used) TCC None to boiling 200° F p	lus	Flammable Limits none determined	N.A.	UEL N.A.
Extinguishing Media Water				
Special Fire Fighting Procedures None				
Unusual Fire and Explosion Hazards None				

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Unitable Concions to Acod Stable X Bo not mix with anything but water.	Section V -	- Reactivity Data						
IN DO NOT MIX with anything but water. Strong acids and/or concentrated oxidizers Pazardous Decomposition or Byproducts Possibly carbon monoxide Commons to Anod May Occur Will Not Occur X Excessive heat Section VI — Mealth Hazard Data Country of Entry Inhamitor) May Occur X Excessive heat Section VI — Mealth Hazard Data Country of Entry Inhamitor) Acute: Possible irritation of skin or respiratory system. Chronic: No chronic data presently evailable. Acronics No chronics	Stability	Unstable		Conditions to Avoid				
Strong acids and/or concentrated oxidizers Lazardous Decomposeon or Byproducts Possibly carbon monoxide Residual Decomposeon or Byproducts Rossibly carbon monoxide Residual Decomposeon or Byproducts Rossibly carbon monoxide Residual Decomposeon or Byproducts Rossibly carbon monoxide Residual Decomposeon or Byproducts Residual Decomposeon or Byproducts Residual Decomposeon or Byproducts Residual Decomposeon Residual Decompos		Stable	X	Do not mix with	anythin	o hut water		
Possibly carbon monoxide ### Possible irritation of ### Possible irritation possible irritation irri	ncompatibility	(Materials to Avoid)						
Assertions of the content of the con	iazardous Deco	emposition or Byprodu	cts				ters	
ection VI — Health Hazard Data Council of Entry Innamino? X Excessive heat ection VI — Health Hazard Data Council of Entry Innamino? X Experiment Section of Skin or respiratory system. Chronic: No chronic data presently swallable. Chronic: No chronic data presently system. Excessive inhalation: Could possibly cause headach and nausea. Chronic: No chronic data presently system. Excessive inhalation: Could possibly cause headach and nausea. Chronic: No chronic data presently system. Excessive inhalation: Could possibly cause headach and nausea. Chronic: No chronic data presently system. Excessive inhalation: Could possibly cause headach and nausea. Chronic: No chronic data presently system. Excessive inhalation: Could possibly cause headach and nausea. Chronic: No chronic data presently system. Excessive inhalation: Could possibly cause expensive inhalation: Could possibly cause presently system. Chronic: No chronic data presently system. Excessive inhalation: Could possibly cause presently intended and presently system. Chronic: No chronic data presently system.					monoxid			
Excessive heat Content N Mealth Hazard Data		May Occur		Conditions to Avoid		- Liki Ariberta a san	······································	
Council) of Enth, inhalation? X BAN? X Ingestion? X seath Hazards (Active and Chromic) Acutes: Possible irritation of skin or respiratory system. Chronic: No chronic data presently available. Secondance: NTP? No ARC Monographs? No OSHA Regulated? No grass and Symptoms of Exposure Irritation of skin, eyes or respiratory system. Excessive inhalation: Could possibly Cause headache and nausea. **Conditions**		Will Not Occur	х	Excessive heat	-			
A A A A A A A A A A A A A A A A A A A	ection VI -	- Health Hazard	Data				8.	
Curonic: No chronic data presently available. Guronic: No chronic data presently available. ARC Monographs? No OSHA Requised? No private processing the processing street of the processing street	oute(s) of Entry	Inha	ation?	X Skin'	x		Ingestion?	
Chronic: No chronic data presently available. **Concions** **Concions* **Concions** **Co	eath Hazards	(Acute and Chronic)	Acute	: Possible irritation of a	kin or res	piratory system	n.	
Production VII — Precautions for Safe Handling and Space Contain spill. Hop up or wet vacuum, then rinse contaminated area with terr. Product is infinitely soluble with sater; and allow normal foot traffic on area until dry. Wasse Depose Meriod Comply with all local, state and federal regulations. If local ordinance therwise collect product and dispose of in approved sites or landfill. Scanson to Be Taken in Handing and Storing (and/ore Contain spill). Keep container closed when not in use. Avoid continuing product is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear or contain the contain to the collect product and dispose of in approved sites or landfill. Scanson to Be Taken in Handing and Storing (and/ore Contain spill). Keep container closed when not in use. Avoid continuing product is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear ordinate is a strong detergent and excessive skin contact or eye container closed when not in use. Avoid continuing product is a strong detergent and excessive skin contact or eye container closed when not in use. Avoid continuing product is a strong detergent and excessive skin contact or eye container closed when not in use. Avoid continuing product is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear ordinates, NEEP CUT OF REACH OF CHILIREN. Special N.A. Special N.A. Mechanical (General) Adequate Discover Robber or latex gloves recommended. Eye Prosection Coggles or face shield recommended.								
cause headache and nausea. **Conchons** **cris** Conchons** **cris** Conchons** **cris** Approximated by Eurosure** **May further aggravate existing skin disorders and/or respiratory silments. **mergency and First Aid Procedures** **Expect							 	
Cause headache and nausea. Comply with all local, state and federal regulations. If local ordinance not allow normal foot traffic on area until dry. Cause Datona Method Comply with all local, state and federal regulations. If local ordinance normal with large amounts of water prior to disposal therwise collect product and dispose of in approved sites or landfill. Cause headache and excessive skin contact or eye container closed when not in use. Avoid continuation excessive exposure to skin without wearing protective glows. Avoid splashing into face, particularly eye product is a strong detergent and excessive skin contact or eye contained breathing apparatus may be advisable. Cause of the protection (Species) Type) The required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Cause of the protection of the prote	arcinogenicity	NTP	, No	MRC	Monographs?	? No	OSHA Regulated?	No
cause headache and nausea. edua Concitons eners', Appraised D, Exposure May further aggravate existing skin disorders and/or respiratory silments. mergent, and First And Procedures EMESS: irrigate with water for at least 15 minutes. If irritation persists seek medical tention. SKIN: Wash with water; if irritation persists get medical attention. DRESTICN: Give large amounts of fli ter or milk to dilute. GET IMMEDIATE MEDICAL ATTENTION. INMALATION: Move subject to fresh air; if nausea persi t medical attention. ection VII — Precautions for Safe Handling and Use the large in Dase Mareia is Released or Spined Contain spill. May up or wet vacuum, then rinse contaminated area with ter. Product is infinitely soluble with water. Once more mop up or pick up liquid, this time to reduce slip haze not allow normal foot traffic on area until dry. Waste Disposal Method Comply with all local, state and federal regulations. If local ordinance flow sewer disposal, dilute material with large amounts of water prior to disposal therwise collect product and dispose of in approved sites or landfill. scannons to Be Taken in Mandung and Storing (ans/re, Other Precautions) d/or excessive exposure to skin without wearing protective glowes. Avoid splashing into face, particularly ey product is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear oducts, KEEP CUT OF REACH OF CHILDREN. cotion VIII — Control Measures sporatory Protection (Special Pres) ne required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Mechanical (General) Adequate Described Governal Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended. Eye Protection Goggles or face shield recommended.	ons and Symp	toms of Exposure 1		tion of skip, eyes or resp	(Tatom: Gr	eren Excessiv	inhalation: Coul	
entral Concitons entral Aggravate by Exposure May further aggravate existing skin disorders and/or respiratory ailments. mergency and First Act Procedures ENES: irrigate with water for at least 15 minutes. If irritation persists seek medical tention. SCIN: Wash with water; if irritation persists get medical attention. INCESTION: Give large amounts of fit ter or milk to dilute. GET INVEDIATE MEDICAL ATTENTION. DEVALATION: Move subject to fresh air; if mausea persit medical attention. ection VII — Precautions for Safe Handling and Use per to Be Taven in Case Materia is Receased or Spined Contain spill. May up or wer vacuum, then rinse contaminated area with ter. Product is infinitely soluble with water. Once more may up or pick up liquid, this time to reduce slip haze not allow normal foot traffic on area until dry. Waste Disposal Method Comply with all local, state and federal regulations. If local ordinance low sewer disposal, dilute material with large amounts of water prior to disposal therwise collect product and dispose of in approved sites or landfill. Secanons to Be Taven in Mandling and Storing (ans/or. Other Processions) Afor excessive exposure to skin without wearing protective glowes. Avoid splashing into face, particularly epiroduct is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear ordinate, KEEP OUT OF REACH OF CHILIREN. Extensive Financial (General) Adequate Disposal N.A. Special N.A. Mechanical (General) Adequate Discusse Rubber or Latex gloves recommended. Eye Protection Googles or face shield recommended. Disposal N.A. Eye Protection Googles or face shield recommended. Disposal N.A. Eye Protective Corbing of Equipment Normally not required.					Tractory sy.	scen.		
mergency and five And Procedures EMES: irrigate with water for at least 15 minutes. If irritation persists seek medical attention. SKIN: Wash with water; if irritation persists get medical attention. INESTION: Give large amounts of fitter or milk to dilute. GET INMEDIATE MEDICAL ATTENTION. INMALATION: Move subject to fresh air; if nausea persists medical attention. ection VII — Precautions for Safe Handling and Use espis to Be Taken in Case Materia is Recased or Spined Contain spill. May up or wet vacuum, then rinse contaminated area with terr. Product is infinitely soluble with water. Once more may up or pick up liquid, this time to reduce slip haze to not allow normal foot traffic on area until dry. Vasie Dasposa: Method Comply with all local, state and federal regulations. If local ordinance llow sewer disposal, dilute material with large, amounts of water prior to disposal therwise collect product and dispose of in approved sites or landfill. Scantons to Be Taken in Handling and Storing (anafric Other Procautions) Moderates Reposure to skin without wearing protective glowes. Avoid splashing into face, particularly eyproduct is a strong detergent and excessive skin contact or eye container closed when not in use. Avoid continuation is strong detergent and excessive skin contact or eye container may cause irritation. As with all clear orducts, KEEP CUT OF REACH OF CHILIREN. Section VIII — Control Measures spiratory Protection (Specify Type) ne required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Spaceal N.A. Mechanical (General) Adequate Discusse Glowes Rubber or latex gloves recommended. Eye Protection Coping or Equipment Normally not required.			1026	Padatir ait lausea.				
tention. Skin wash with water; if initiation persists get medical attention. Institution described in the offlute. GET IMPDIATE MEDICAL ATTENTION. Installation: Move subject to fresh air; if nausea persit the medical attention. section VII — Precautions for Safe Handling and Use person to be favor in Case Majera is Receased or Spined Contain spill. Mop up or wet vacuum, then rinse contaminated area with terr. Product is infinitely soluble with water. Once more mop up or pick up liquid, this time to reduce slip haze not allow normal foot traffic on area until dry. Vaste Disposal Method Comply with all local, state and federal regulations. If local ordinance llow sewer disposal, dilute material with large amounts of water prior to disposal therwise collect product and dispose of in approved sites or landfill. Secations to Be Taxen in Handling and Storing (ani/re One Procurions) Keep container closed when not in use. Avoid continuation excessive exposure to skin without wearing protective gloves. Avoid splashing into face, particularly exproduct is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear orducts, KEEP OUT OF REACH OF CHILIREN. Section VIII — Control Measures Spiratory Protection (Specify Type) the required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Normally not required. Special N.A. Mechanical (General) Adequate Other N.A. Eye Protection Goggles or face shield recommended. Eye Protection Control and Specify and Equation of Equipment of the protection of the shield recommended.	ealta' Conditio enera', Aggrai	ns rated by Exposure M	ay fur	ther aggravate existing s	kin disord	ers and/or resp	oiratory ailments.	
tention. Skin wash with water; if initiation persists get medical attention. Institution described in the offlute. GET IMPDIATE MEDICAL ATTENTION. Installation: Move subject to fresh air; if nausea persit the medical attention. section VII — Precautions for Safe Handling and Use person to be favor in Case Majera is Receased or Spined Contain spill. Mop up or wet vacuum, then rinse contaminated area with terr. Product is infinitely soluble with water. Once more mop up or pick up liquid, this time to reduce slip haze not allow normal foot traffic on area until dry. Vaste Disposal Method Comply with all local, state and federal regulations. If local ordinance llow sewer disposal, dilute material with large amounts of water prior to disposal therwise collect product and dispose of in approved sites or landfill. Secations to Be Taxen in Handling and Storing (ani/re One Procurions) Keep container closed when not in use. Avoid continuation excessive exposure to skin without wearing protective gloves. Avoid splashing into face, particularly exproduct is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear orducts, KEEP OUT OF REACH OF CHILIREN. Section VIII — Control Measures Spiratory Protection (Specify Type) the required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Normally not required. Special N.A. Mechanical (General) Adequate Other N.A. Eye Protection Goggles or face shield recommended. Eye Protection Control and Specify and Equation of Equipment of the protection of the shield recommended.								
Comply with all local, state and federal regulations. If local ordinance allow sewer disposal, dilute material with large amounts of water prior to disposal atherwise collect product and dispose of in approved sites or landfill. **Recautions to Be Taken in Handling and Storing (ans/re Other Precautions) Keep container closed when not in use. Avoid continued for excessive exposure to skin without wearing protective gloves. Avoid splashing into face, particularly exproduct is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear roducts, KEEP CUT OF REACH OF CHILIREN. **Rection VIII — Control Measures** **Expraintly Protection (Specify Type)** **Inchesive Control Measures** **Expraintly Protection (Specify Type)** **Inchesive Control Measures** **Inchesive Control Measures** **Expraintly Protection (Specify Type)** **Inchesive Control Measures** **Inchesive Control Measures** **Expraintly Protection Control Measures** **Inchesive C	eps to Be Take ster. Produc	n in Case Materia is t is infinitely i	Releas solubl	ed or Spined Contain spill. e with water. Once more m				
Comply with all local, state and federal regulations. If local ordinance llow sewer disposal, dilute material with large amounts of water prior to disposal therwise collect product and dispose of in approved sites or landfill. **Coalting and Storing (ans/re Other Precautions)** **Coefficient of the product of the product of excessive exposure to skin without wearing protective gloves. Avoid splashing into face, particularly exproduct is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear orducts, KEEP CUT OF REACH OF CHILIREN. **Ection VIII — Control Measures** **Expraisory Protection (Specify Type)** **The required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable.* **The required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable.* **The Protective Control of Equipment** **N.A.** **Discrive Gloves** Rubber or latex gloves recommended.* **Eye Protection** **Goggles or face shield recommended.* **Discrive Control of Equipment** **Normally not required.**			. IC G	atea dicit dry.				<u></u>
d/or excessive exposure to skin without wearing protective gloves. Avoid splashing into face, particularly exponent is a strong detergent and excessive skin contact or eye contact may cause irritation. As with all clear roducts, KEEP OUT OF REACH OF CHILDREN. ection VIII — Contro! Measures espiratory Protection (Specify Type) The required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Enulation Local Exhaust N_aA_b Special N_aA_b Mechanical (General) Adequate Other N_aA_b Control Report Other Other Other Control Report Other Other Other Control Report Other	llow sewe	comply ver disposal,	dilu	te material with la	rge, amo	unts of w	ater prior to	ordinances disposal.
respiratory Protection (Specify Type) In required in normal ventilated areas. In confined spaces, self-contained breathing apparatus may be advisable. Includion Local Exhaust N.A. Special N.A. Mechanical (General) Adequate Other N.A. Discrive Gloves Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended. The Protective Coothing or Equipment Normally not required.	d/or excess: product is	ive exposure to s	kin v	without wearing protective decreasive skin contact of	e gloves.	Avoid splashi	ng into face, pa	rticularly eyes
me required in normal ventilated areas. In confined spaces, self contained breathing apparatus may be advisable. Including the protective Gloves Rubber or latex gloves recommended. Normally not required.	ection VIII -	- Control Measu	res					
Mechanical (General) Adequate Other N.A. Dispecial N.A. Other N.A. Other Protective Clothing or Equipment Normally not required.	spiratory Protect	ction (Specify Type) in normal wentil	ated	areas. In confined snaces	self cont	ained breathin	e apparatus may h	advisable.
otective Gloves Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended. her Protective Clothing or Equipment Normally not required.				phase				
otective Gloves Rubber or latex gloves recommended. Eye Protection Goggles or face shield recommended. her Protective Clothing or Equipment Normally not required.	ŀ	Mechanical (General)	Adequ	ate	Other	N.A.	<u> </u>	
ther Protective Clothing or Equipment Normally not required.	plective Gloves				e Protection		ace shield recoun	ended.
. Committy into requirement					ined.		·····	
door ingserechtig http://www.								
				mercechnik hracrices abit	···			

May be used to comply with	U.S. Departme Occupational Safety (Non-Mandatory Fe Form Approved OMB No. 1218-007	ont of Labor and Health Administration ***********************************		1 0		
EDENTITY (As Used on Label and List) LAMCO "FLOOR CONDIT	IONER"	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that				
Section I	الريوة وراء الماداء	man and and an analysis of the second				
Manufacturer's Name LANCO CHEMICAL CO	o. 1NC.,	Ethergency Telephone Number	(617) 884-8	470 **		
Address (Number, Street, Crty, State, and ZIP Coo 212 Arlington St.	e) codesos reet	Same Number for Information ** Or Loc	cal Poison Co	enter		
CHELSEA, MA 021	50	Date Prepared July 21, 1	987			
	and sign	Signature of Preparer (optional)	expe Ci	Ceaum		
Section II — Hazardous Ingredients/Id	entity information	A BARGO TO A SECOND SEC				
Hazardous Components (Specific Chemical Identification Components not classified ha	The State of the S	Specification	Other Limits Recommended	% (option		
	Anna Age					
	en e					
Section III — Physical/Chemical Chara	Atariatian					
Boiling Point	2120 1	Specific Gravity (H ₂ O + 1)		1 1 04		
,				1.04		
Vapor Pressure (mm Hg)	ca. water	Melting Point		N.A.		
Vapor Density (AIR = 1)	ca: Water	Eventualism Rate slower (than ether.			
Solubility in Water complete		the second				
Appearance and Odor Off white liq	uid - no speci	fic odor pH	10.2			
Section IV — Fire and Explosion Hazar	d Data					
Flash Point (Method Used) TCC None to boiling	200° F plus.	Fighte determined	LEL N.A.	UEL N.A.		
Extinguishing Media Water		で (教育) (1997年) (1997				
Special Fire Fighting Procedures None	And Sugar					
	The state of the s					
Unusual Fire and Explosion Hazards	one					
N		egen (C.) Gen (C.)				
	The Balk was	Attance.				

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(Reproduce locally)

OSHA 174, Sept 1985 modified

Section V -	- Reactivity Data)		
Stability	Unstable	1	Conditions to Aveid see the second seed to be seed to b	
	Stable	х	Do not min with anything but water	
Incompatibility	y (Materials to Avoid)		Concentificed of attent oxidizing agents	
Hazardous Dec	composition or Byprod.	JOIS	None known	+
Hazardous	Ma, Occur	1	Conditions to Arad	- }-
Polymerization	Will No! Occur	+-		+-
Section VI	— Health Hazard	Data	N.A.	+-
Route,s) of Enti		ירטונוים	Ingestion?	+-
Health Hazards	(Acute and Chronic)		X X X X X X X X X X X X X X X X X X X	+
· 				
 -			chronics, No chronic lata presently available.	+-
Carcinogenicity	NTE	2	Menographs? No OSHA Regulated? No	+
		² Nc	No OSHA Regulated? No	
Signs and Sym	nploms of Exposure	Could	cause have an / headache in rare cases. If splashed int	d eyes
would cau	se eye irrit a t	ion.	Could be irrital to skin upon repeated and prolonged con	tact.
Medica Concito General, Aggra	ons availed by Exposure		None known	1
		·_ ·_ ·		
Emergency and	First Aid Procedures	TNHA	LATION: Move subject to fresh air. EYE and SKIN contact:	
lush eyes	with large at	mount	5 OI、WAtellingatical least 15 minutes。 If irritation nersi	RTS 0
nedical at	ttention. Skir	n: w	sh affected areas with boap and water. INGESTION: Adm	inist
ater or m	ilk to dilute.	• GET	IMMEDIATE MESICAL ATTENTION.	<u></u>
Section VII	- Precautions fo	or Sal	Handling and Use	
Steps to Be Tak	en in Case Materia Is	Releas	es o Spines Rev. Staters away, floor may be slippery. SMALL	SPILL
lop up or	wet vacuum; le	et ar	ea dry LARCE SELESI Dike and contain with inert materia separate containers for disposal.	l (sa
Naste Disposa! I				
allow sewe:	r disposal. di	with Llute	material with large amounts of water prior to disposal. Of	inanc herwi
ollect the	e product with	the		andfi
Precautions to E	Be Taken in Handling i	and Sto	(ans/ch Other Proceutions)	
			the property of the property o	
eep conca.	iners closed w	viieti i	not incuse. KEEP OUT OF REACH OF CHILDREN	
	v.			
Section VIII	- Control Measu	ires 🖟		
Respiratory Prote	ection (Specify Type) N	one .	required it good and normal ventilation is maintained.	
Ventilation	Local Exhaust N.A		Special N.A.	
·	Mechanica! (General)	A d a -	Cite	
Protective Gloves			pate N.A.	
Other Protective	Ciothing or Equipmen		A PECONAINE HOPE	
Work/Hygienic P	ractices		Normally ago: needed	
The state of the s	Goo	d hot	sekeeping practices apply.	
			o usaro neu-cej-579 ≥	3775

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration

4-EXTREME
3-HIGH
MODERATE
2-MODERATE (Non-Mandatory Form)

Form Approved OMB No. 1218-0072

EXHIBIT "A"- 4/

HAZARD RATING F IPS 0 SHT IGNIFICANT SECTION 'V

DENTITY (As Used on Label and List) LAMCO ALL SURFACE CLEAN	VER	Note Blank spaces are not permitted If any item is not applicable, or no information is available, the space must be marked to indicate that				
Section I						
Manufacturer's Name LAMCO CHEMICAL C	O. INC.,	Emergency Telep	hone Numbe:	(617) 884-	8470	
Address (Number, Street, Cay, State, and ZIP Code 212 AT lington St	e) reet	Telephone Numb	er for information	(617) 884	- 8470	
Chelsea, MA 021	50	Date Prepared	June 22, 198	37		
		Signature of Prep	parer (optional)	2000 G	Ceaum	
Section II — Hazardous Ingredients/Id	entity Information			1		
Hazardous Components (Specific Chemical Identity	y. Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)	
Isopropyl Alcohol CAS # 67-63-0		400 ppm	500 ppm	N.A.	5 - 7%	
Section III — Physical/Chemical Chara						
Boiling Point	212° F	Specific Gravity (F	1 ₂ 0 = 1)		.985	
Vapor Pressure (mm Hg)	ca. water	Melting Point			N.A.	
Vapor Density (AIR = 1)	ca. wate	Evaporation Rate (Butyl Acetate = 1	slower than	ether		
Solubility in Water Complete						
Appearance and Odor Light tan	liquid, sligh	nt pine odor	рн 8.4 -	- 8.8		
Section IV — Fire and Explosion Hazar	d Data					
Flash Point (Method Used) ICC None to boiling 200 F +		Flammable Limits None determ	nined	LEL N.A	N.A.	
Extinguishing Media Water						
Special Fire Fighting Procedures None						
· · · · · · · · · · · · · · · · · · ·						
Unusual Fire and Explosion Hazards None						
American de la companya de la compan						

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Section V -	- Reactivity Date	2				
Stability	Unstable	T	Conditions to Avoid			
	Stable	X	Do not mix	with anyth	ing but wate	
Incompatibility	(Materials to Avoid)		ong acids and cond			
Hazardous Dec	omposition or Byprod			ome carbon i		
Hazardous	May Occur		Conditions to Avoid			
Polymerization	Will Not Occur	 			·	
		X	Excessive	heat ———————		
	- Health Hazard		 	<u> </u>		
Route(s) of Enti	·	alation?	Х	Skin? X		Ingestion? X
Health Hazards	(Acute and Chronic)	Acu	te: May cause naus	sea and head	daches in ra	re cases.
	(Chron	ic: No chronic dat	a presently	y available.	
Carcinogenicity	NT	No No	_	iARC Monographs	NO NO	OSHA Regulated? No
Signs and Sym	pioms of Exposure (Could	cause nausea in 1	are cases.	If splashed	into eyes would cause
eye irrita	ation.					
Medical Concili	ons availed by Exposure		None known			
		for a		s. If irrit	tation pers	ists get medical attention
			or milk to dilute			
O	Descritions 6	ar 6 a4	e Handling and Use			
Steps to Be Tak	ken in Case Materia II wet vacuum. Ti	s Reieas hen w	ed or Spilled Keep spec	er to remov	e all traces	y be slippery. SMALL SPILLS: s of soap. LARGE SPILLS:Dike er for disposal.
Waste Disposa						l soap. If local ordinance
permit, flum with inert	sh into sewer	. (Pr	ior to this disposing a separate con	sal dilute	product wi	th water). Otherwise absor
Precautions to I	Be Taken in Handling	and Sto	ring (and/re Other Precau	itions)		
			lly none required t splash into eye:			ed when not in use. F CHILDREN.
Section VIII	- Control Meas	ures				
			required if good	ventilation	is maintain	ned.
Ventilation	1	N.A.		Specia		
	Mechanica' (Genera	1/,	Adamata	Other	N.A.	
Protective Glove	Normall		Adequate needed	Eye Protection		ed but not necessary
Other Protective	Clothing or Equipme		Normally no	ot needed		
Work/Hygienic F	Practices					
		Good	housekeeping pract	tices apply ige 2	•	• USGPD 180(-491-529:45775
				-y		

CATERIAL SAFETY DATA SHEET

Revised Sept. 1986

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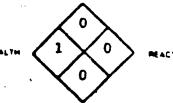


EXHIBIT "A"- $\frac{42}{}$

		A C IN IC
SE	CTION I	
MANUFACTURER'S NAME	EMERGENCY TELEPHO	NE NO.
LAMCO CHEMICAL COMPANY, INC.	(617) 884-847	0
ADDRESS (Number Street City. State and ZIP Code) 212 Arlington Street, Chelsea, MA 021	50	·
CHEMICAL NAME AND SYNONYMS potassium Boap	WAX & DIRT REMOVER	
CHEMICAL FAMILY Anionic Detergent.	Formulated Product	

PAINTS, PRESERVATI	ves, & solvents	*	TLV (Unrs)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS	N.A.	T		BASE METAL N.A.		
CATALYST	N.A.			ALLOYS N.A.		
VEHICLE	N.A.			METALLIC COATINGS N.A.		
SOLVENTS	N.A.			PILLER METAL N.A. PLUS COATING OR CORE FLUX		
ADDITIVES	N.A.			OTHERS		
OTHERS .						
HA	ZARDOUS MIXTURE	S OF C	THER LIC	DUIDS, SOLIDS, OR GASES	*	TLV (Units)
Ethanolamine	CAS #141-43-5				3	3 pp

SE	CTION III - I	PHYSICAL DATA	
BOILING POINT (°F.) 2120		SPECIFIC GRAVITY (H2O=1)	1.010
VAPOR PRESSURE (mm Hg.) ca. Water		PERCENT, VOLATILE BY VOLUME (%)	84
VAPOR DENSITY (AIR-1) ca. water		EVAPORATION RATE Slower than	ether
SOLUBILITY IN WATER	complete	pН	11.2
APPEARANCE AND ODOR COLOT:	amber	Odor: pleasant	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA						
FLASH POINT (Method used) Tag Closed Cup none to boiling point 2000 F. +	PLAMMABLE LIMITS none determined	101	Uel			
EXTINGUISHING MEDIA Water						
SPECIAL FIRE PIGHTING PROCEDURES						
UNUSUAL FIRE AND EXPLOSION HAZARDS						

SECTION V - HEALTH HAZARD DATA THRESHOLD LIMIT VALUE See Section II EFFECTS OF OVEREXPOSURE May cause eye and skin irritation. EMERGENCY AND FIRST AID PROCEDURES Eyes: Flush with water and irrigate for 15 minutes. Get medical attention. Skin: Wash with warm water.

1.

Υ 3.

STABILITY	UNSTABLE		S-TO AVOID
	TABLE X	Do no	of mix with anythying but water
	Materials to avoid) : ted oxidizing agents POSITION PRODUCTS	Poss	ibly some CO
TALARDOUS SECON		the state of	The state of the s
HAZARDOUS	MAY OCCUR		CONDITIONS TO AVOID
POLYMERIZATION	WILL NOT OCCUR	- X.	Excessive Heat

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SMILLED

Flush with water if possible or allow to dry and scrape up residue; spilled material may also be absorbed in sand or other inert material.

WASTE DISPOSAL METHOD

If material is diluted with water, flush to sewer if local ordinance permits.

Otherwise use sanitary land fill approved by local state and federal authori-

ties as a disposal site.

SECTION VIII - SPECIAL PROTECTION INFORMATION RESPIRATORY PROTECTION (Specify type) Normally none required VENTILATION LOCAL EXHAUST Not required MECHANICAL (General) Recommended PROTECTIVE GLOVES recommended goggles recommended OTHER PROTECTIVE EQUIPMENT Not required

SECTION IX SPECIAL PRECAUTIONS

Avoid continued and/or excessive exposure to skin without wearing protective gloves. Avoid splashing into face, particularly eyes, as product is a strong OTHER PRECAUTIONS.

OTHER PRECAUTIONS and direct eye contact would cause eye irritation.

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Material Safety Data Sheet May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200, Standard must be

U.S. Department of Labor

Occupational Safety and Health Administration

(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

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EXHIBIT "A"-43 consulted for specific requirements. DENTITY (At Used by Label and Usi)
LAMCO ALL PURPOSE CLEANER Note. Blank špācēš ārē not permitted. If any item is not applicable, or no antormation is available, the spācē must be marked to indicate that ... Section I Manufacturer's Name LANCO CHENICAL CO. INC., Emergency Telephone Number (617) 884-8470 Address (Number, Street, Chy. State, and ZIP Code)
212 Arlington Street Telephone Number for Information Or Local Poison Center: Dale Prepared CHELSEA. MA 02150 October 24, 1989 Signature of Present (aptornt) Section II - Hazardous Ingredients/Identity Information Other Limits Hazardous Components (Specific Chemical Identity, Common Name(s)) OSHA PEL ACOIH TLV Récommended 4£ (optional) none Section III — Physical/Chemical Characteristics **Boiling Point** Specific Gravity (H40 4 1) 212° F 1.00 Vapor Pressure (mm Hg) Mélling Point ca.water N.A. Vapor Density (AIR = 1) Evaporation Rate ca.water slower than ether (Butyl Acétaté & it) Solubility in Water Complete Appearance and Odor Light tan liquid, slight pine order Section IV - Fire and Explosion Hazard Data Flash Point (Method Used) Flammable Limits TCC None to boiling 200°F + none determined Extinguishing Media Water Special Fire Fighling Procedures None Unusual Fire and Explosion Hazards None

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(Reproduce locally):

Section V	- Heactivity Dat	a	-, 4%-		<u> </u>	The second second second
Stability	Unstable	Conditions	s to Avoid	FLUE HENGER EN 191	The Control of the second control of the second	
	Stable	X Do 1		nything but wat		The state of the s
Incompatibilit	y (Materials to Avoid))				
Hazardous De	composition or Byprod	ucts		concentrated ox	idizers.	
Hazardous	May Occur	Conditions	sibly some carl	oon monoxide.	<u> </u>	, e.e. ja
Polymerization		- 1	. Spilatel			10/-
		X Exc	essive heat		e de la companya de La companya de la co	ANTARAGORA (C. SALA)
	- Health Hazard	بما المستحدين المستحدد المستحدد المستحدد المستحد المستحدد المستحدد المستحدد المستحدد المستحدد المستحدد المستحد	,			The application are
Route(s) of En	ry: Inha	alation?	Skin?	, X,	Ingestion?	
Health Hazards	(Acute and Chronic)	Ch	ronic: No ch		sently available.	
					SCHOOL BUILDING	6 54 con
	·		<u></u>	<u></u>		1.35*****
Carcinogenicity	- NTF		IARC	Monographs?	OSHA Regulated?	
	NO	No		. No		No.,,
Signs and Sym	ptoms of Exposure	If	splashed into	eyes, would ca	use slight eye ir	ritation,
						. #:No. v =
Medical Conditi	ons ivated by Exposure	Non	ne known			
LARGE SPI faste Disposal A If local (collect in	Method ordinances per a separate o	i contain wi separate c rmit, flush container and	th inert mater ontainer for d This is a	in water to rei ial (sand, ear isposal,	loor may be slipped move all traces of th. etc.) and transadable vegetable of the with insert mater	f soap. nsfer to
Mormally r	e randii iii rialidiiiig a DDC TOTH TAM	Koon cont	e Other Precautions/	• • •		
	- IIII IUIIIII O	a Citification.	Al ubeu Ej C	allaron, insure	e. Do not splash e adult supervisio	into eves.
	- Control Measu		Control Association Control Control (Control Control C		The state of the s	Transports to the second
	clion (Specify Type)					America and a second
entitation	Local Exhaust			good ventilatio	n is maintained.	as my language age of
E-MIEUON		N.A.	Straight Co.		ere transferential en gran de la companya della com	yt etjere, s
	Mechanical (General)	Adeq	uate	Other N.A	MANUAL MA	
ormally n	ot needed	ala Maria de Arrago.	Eye	Profesion	ended by not hece	. 1.
	Clothing or Eduloment		p de la constante de la consta	All was been surely a laterally acres by a	ATTENDED	B887.V
VorWHygienic Pr	actices		- <u>1900 - 1900 -</u>	ie namoglici i stolete pie je interviene a amini i s a traditi pie projek	and the second of the Spirits of the second of the second	The water of
Good house	ekeeping pract	tices apply.	Bank 9	etwijsenije in system i princi	* hakan 144	5 . 3 & 4 A A

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

OME No. 1218-0072

Occupational Safety and Health Administration (Non-Mandatory Form)
Form Approved

HAZARD RATING	IN O
HIGH	LIN O O MESTIN-
SEE BECTION V	* \$1114

Note: Blank spaces are not permitted. If any firm is not applicable, or no information is available, the space must be marked to indicate that EDENTITY (As Used on Labet and List)
LAMCO ALL PURPOSE CLEANER . . Section I Manufacturer's Name Emérgency Telephone Numbér LANCO CHENICAL CO. INC., (617) 884-8470 Address (Number, Street, City: State, and ZIP Code)
212 Arlington Street Telephone Number for Information Or Local Polson Centěri Daté Prépáred CHELSEA. MA 02150 October 24, 1989 Signature of Preparat (optional) Section II - Hazardous Ingredients/Identity Information Other Limits Hazardous Components (Specific Chemical Identity Common Name(5)) DSHA PEL **ACBIH TLV** Récomménded \$£ (opliona) none Section III - Physical/Chemical Characteristics Specific Gravity (HaO & 1)-**Boiling Point** ar and seems with 212° F 1.00 Vapor Pressuré (mm Hg) Melting Point ca.water N.A. Vapor Density (AIR = 1) Evaporation Rate ca.water slower than ether (Butyl Acetate . 4) Solubility in Water Complete Appearance and Odor Light tan liquid, slight pine order 7.5 Section IV - Fire and Explosion Hazard Data Flash Point (Method Used) Flammable 1 mits LIFL TCC None to boiling 200°F + none determined Extinguishing Media Water Special Fire Fighting Procedures None Unusual Fire and Explosion Hazards None

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MATERIAL SAFETY DATA SHEET

uland rating = Extreme = High

= MODERATE = SLIGHT = INSIGNIFICANT

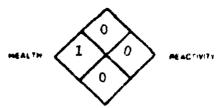


EXHIBIT "A"- 44

	SPECIFIC
SECT	rion i
MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
LAMCO CHEMICAL COMPANY, INC.	(617) 884-8470
ADDRESS (Number, Singer, City, Singe, and ZIP Code) 212 Arlington Street, Chelsea, MA 02150	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS Lamco Blue Label Institutional
CHEMICAL FAMILY	FORMULA Floor Wax
CHEMICAL FAMILY	

PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	×	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		}
OTHERS					
HAZARDOUS MIXTURE	S OF	OTHER LI	QUIDS, SOLIDS, OR GASES	*	TLV (Unital)
Does not contain hazardous subs	stanc	es in r	eportable quantities.		

SECTION III - PHYSICAL DATA					
BOILING POINT (°F.) water	212	SPECIFIC GRAVITY (H2O+1)	1.016		
VAPOR PRESSURE (mm Hg.)	water	PERCENT, VOLATILE BY VOLUME (%)	86		
VAPOR DENSITY (AIR*1) Water EVAPORATION RATE slower than ether					
SOLUBILITY IN WATER	complete	Н	9.2		
APPEARANCE AND ODOR Color: tan Odor: mild					

SECTION IV - FIRE AND EXPLOSION HAZARD DATA							
none to boiling point 2000 F. +	FLAMMABLE LIMITS		Uei				
Extinguishing Media water							
SPECIAL FIRE FIGHTING PROCEDURES							
UNUSUAL FIRE AND EXPLOSION HAZARDS	and the second						

MATERIAL SAFETY DATA SHEET

EXHIBIT "B".

PAGE: 01 of 08

HERCULES INCORPORATED Hercules Plaza

Wilmington, DE 19894

Phone #: (302) 594-5000 (24 hrs)

15, 25, 25A, 45A and WCFA Tall-oils

EXHIBIT

MSDS No.: 676 4013 0100-04

Supersedes MSDS #: 676 4013 0100-03 Date: 04/24/92

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PRODUCT IDENTIFICATION

PAMAK* 15, 25, 25A, 45A and WCFA HMIS RATINGS:(1)

Tall-oils (2)

Health hazard: 0 Minimal Flammability hazard: 1 Slight Reactivity hazard: 0 Minimal

CASRN: 8002-26-4

CHEMICAL & COMMON NAME: Tall-oil distillation fractions

APPEARANCE AND ODOR: Pale amber, oily liquid; fatty odor

(2) These products are composed of fatty acids and resin (rosin) acids. The fatty acids are primarily straight chain, 18-carbon mono- and di-unsaturated acids, including oleic and linoleic acid.

* Registered trademark of Hercules Incorporated

(1) Explanation of acronyms:

HMIS: Hazardous Materials Identification System rating for product as supplied.

CASRN: Chemical Abstract Substance Registry Number

AIHA WEEL: American Industrial Hygienists Association - Workplace

Environmental Exposure Level.

OSHA: Occupational Safety and Health Administration.

TLV: Registered trademark of American Conference of Governmental Industrial

Hygienists for Threshold Limit Values.

TWA: Time Weighted Average

STEL: Short term exposure limit (See 29 CFR 1910.1048, March 1, 1989, revision)

C: Ceiling exposure concentration (See 29 CFR 1910.1000, March 1, 1989, rev.)

SKIN: May be absorbed through skin (See 29 CFR 1910.1048, March 1, 1989, rev.)

N/A: Not applicable

. HEALTH HAZARD DATA

...Continued

CANCER INFORMATION:

The components of this product are NOT listed as carcinogens by the National Toxicology Program (NTP). They are NOT regulated as carcinogens by the Occupational Safety and Health Administration (OSHA) and have NOT been evaluated by the International Agency for Research on Cancer (IARC).

REPORTED HUMAN EFFECTS:

These PAMAK* products consist primarily of tall oil derived fatty acids, mainly oleic and linoleic acid. Some of these fatty acids are common components of the human det. These products also contain varying amounts of resin (rosin) acids.

Tall oil acids are approved for use as an indirect food additive. Liquid soap formulations containing up to 12% tall oil fatty acids did not cause dermal irritation, sensitization or photosensitization in human subjects.

LINOLEIC ACID: In a dietary study in humans, ingestion of large amounts of linoleic acid caused changes in platelet functions (decreased platelet activation).

OLEIC ACID: None reported

RESIN (ROSIN) ACIDS: See above: MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE.

Prolonged exposure to smoke or fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or breathing difficulty. Repeated exposure may lead to respiratory sensitization (asthma). See SECTION II

REPORTED ANIMAL EFFECTS:

Tall oil fatty acids fed to rats for forty days at a level of 6% in the diet had no adverse effects. Rats fed levels of 12% and 24% had reduced growth. No treatment-related effects were seen in a two-generation reproduction study in rats fed diets containing 5% and 10% tall oil fatty acids.

A 90-day dietary study with rats fed diets containing up to 25% of a material containing many of the components of products revealed no ill effects that could be related to the test material.

LINOLEIC ACID: Oral LD50, mouse - greater than 3200 mg/kg.

Oral LD50, rat - greater than 3200 mg/kg.

Dermal LD50, guinea pig - greater than 20 ml/kg.

Linoleic acid was non-toxic by single peroral administration to rats and not an irritant to rabbit eyes or skin.

Continued...

HEALTH HAZARD DATA

REPORTED ANIMAL EFFECTS:...Continued

OLEIC ACID: Oleic acid was non-toxic by peroral administration, non-corrosive (4-hour patch test), not a skin irritant, and not an eye irritant. Oleic acid fed to rats for three months at concentrations up to 25% in the diet produced no adverse effects. The no-effect level was greater than 28 g/kg/day, the calculated equivalent of 25% dietary oleic acid.

RESIN (ROSIN) ACIDS: These products contain up to 50% resin (rosin) acids. Two-year feeding studies have been conducted in dogs and rats with rosin. At a dietary level of 1% rosin, the rats showed a slight decrease in body weight gain and both species showed increased liver sizes. Microscopic examination of the liver and other tissues did not reveal any abnormalities that could be attributed to the test material. At dietary levels of 0.2% or less, the rats and dogs did not have any abnormalities that could be related to the resin (rosin) acids.

OTHER:

Oleic acid caused chromosome aberrations in yeast (Saccharomyces cerevisae) and in cultured hamster fibroblast cells.

VI. SPILL PROCEDURES & WASTE DISPOSAL

SPILL PROCEDURES:

Scrape up and salvage in metal containers. Soak up small spills with earth or sand. Wash area with detergent and water.

WASTE DISPOSAL METHOD:

Incineration of combustible wastes in permitted facilities i \bullet the preferred disposal method.

Refer to Section VIII for specific Federal Environmental and Regulatory Data regarding use or disposal of this product.

VII. APPLICABLE CONTROL MEASURES

APPROPRIATE HYGIENIC PRACTICES:

Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing promptly and clean thoroughly before reuse.

PERSONAL PROTECTIVE EQUIPMENT:

Impervious gloves
Safety glasses
Appropriate protective clothing

Continued...

MSDS	No.:	676	4013	0100-04	Date:	04/24/92	PAGE:	06	of	80

VII. APPLICABLE CONTROL MEASURES

...Continued

WORK PRACTICES:

Eyewash fountains and safety showers should be easily accessible. Spontaneous combustion may occur if rags or trash soaked with this material are confined such as in piles or bins. Soaked vessel or piping insulation may also be subject to spontaneous combustion.

HANDLING AND STORAGE PRECAUTIONS: None

ENGINEERING CONTROLS:

Provide adequate ventilation.

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE:

Completely isolate and thoroughly clean all equipment, piping or vessels before beginning maintenance or repairs. Keep area clean. Product will burn.

Date: 04/24/92 PAGE: 07 of 08

VIII. ENVIRONMENTAL REGULATORY DATA

The following environmental and regulatory data are provided to assist users of this product in defining their regulatory environmental compliance

obligations.

A. PRODUCT COMPOSITION

PRODUCT (P) or

TRADE NAME or

COMPONENT NO.

CHEMICAL COMPONENT

CASRN

WT. PERCENT

P

PAMAK* 15, 25, 25A, 45A, and WCFA Tall-oils

8002-26-4

100

B. SARA TITLE III (See footnotes)

SEC. 304 SEC. 302

COMPONENT NO.

EHS RQ (lbs)

EHS

SEC. 311/312

SEC. 313 TOXIC TPQ (lbs) HAZARD CATEGORY CHEMICAL (YES, NO)

P

N/A

N/A

NHH, NPH

NO

CERCLA (40 CFR 302.4 HAZARDOUS SUBSTANCE & REPORTABLE QUANTITIES)

These products do NOT contain any hazardous substances listed in 40 CFR 302.4

D. RCRA INFORMATION

These products are not listed in federal hazardous waste regulation 40 CFR 261.33, paragraph (e) or (f) - i.e., chemical products that are considered hazardous if they become wastes. They do not exhibit any of the hazardous characteristics listed in 40 CFR 261, Subpart C. State or local hazardous waste regulations may apply if they are different from the federal regulation.

E. TSCA STATUS

The components of these products are included on the EPA TSCA Chemical Substance Inventory.

Continued...

VIII. ENVIRONMENTAL REGULATORY DATA

...Continued

FOOTNOTES:

SEC. 302 - Threshold Planning Quantity, Extremely Hazardous Substance (EHS) (40 CFR 355 Emergency Planning and Notification regulations)

N/A: This chemical is not an EHS. Therefore, there is no Threshold Planning Quantity (TPQ).

SEC. 304 - Reportable Quantity for Releases of an EHS (40 CFR 355, Appendix A)

N/A: This chemical is not an EHS. Therefore, there is no Reportable Quantity (RQ).

SEC. 311/312 - 40 CFR 370 Hazardous Chemical Reporting Requirements "Hazard Categories"

HC-1 Immediate (acute) health hazard

HC-2 Delayed (chronic) health hazard

HC-3 Fire hazard

HC-4 Sudden release of pressure hazard

HC-5 Reactive hazard

NHH Not a health hazard

NPH Not a physical hazard

SEC. 313 - 40 CFR 372 Toxic Chemical Release Reporting Requirements

NO: This component is NOT subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 Toxic Chemical Reporting requirements.

YES: This component is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 Toxic Chemical Reporting requirements. Percent composition (or estimated range) is listed above.

N/A: This product is a mixture. As such, it is not listed as a Toxic Chemical under 40 CFR 372, Sect. 313 reporting requirements. Reportable constituents are listed individually where they exceed threshold concentration limits.

HERCULES INCORPORATED HAS COMPILED THE INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS MATERIAL SAFETY DATA SHEET FROM SOURCES BELIEVED TO BE RELIABLE AND TO REPRESENT THE MOST REASONABLE CURRENT OPINION ON THE SUBJECT WHEN THE MSDS WAS PREPARED. NO WARRANTY, GUARANTY OR REPRESENTATION IS MADE AS TO THE CORRECTNESS OR SUFFICIENCY OF THE INFORMATION. THE USER OF THIS PRODUCT MUST DECIDE WHAT SAFETY MEASURES ARE NECESSARY TO SAFELY USE THIS PRODUCT, EITHER ALONE OR IN COMBINATION WITH OTHER PRODUCTS, AND DETERMINE ITS ENVIRONMENTAL REGULATORY COMPLIANCE OBLIGATIONS UNDER ANY APPLICABLE FEDERAL OR STATE LAWS.

Doc. No. 0754s

WWYS A MATERIAL CAPETY E	KHTRIT TOT 7			
Witco MATERIAL SAFETY EX	mipil "B"-		D RATING TREME	Fire 1 Reactivity
PRODUCT INDUSTRENE®22		3 - HI 2 - MO 1 - SL	DDERATE	1 0
C.A.S. No. 67701-08	-0		SIGNIFICANT	Special
SECTION				
WITCO MANUFACTURING DIVISION OR SUBSIDIARY	 ,		EMERGENCY TEL MANUFACTURES	
HUMKO CHEMI CAL ADDRESS (NUMBER, STREET, CITY, STATE, ZIP CODE)			(901) _ 32	20-5800
P.O. BOX 125, 1231 POPE STREET, MEMPHI	S TN 38101-108		CHEM TREC 1-(8)	00) 424-9300
CHEMICAL NAME OR FAMILY	FORMULA			
3 SOYA FATTY ACIDS	4 MIX	TURE		
SECTION II — CHEMICAL AND PHYSICAL PROPERTIES	CHEMICAL		PHYSI	CAL
HAZARDOUS DECOMPOSITION PRODUCTS		FC	PRM	
CO, FROM BURNING		- Le	LIQUID TO F	PASTE
5 2		OC	OR .	
INCOMPATIBILITY (KEEP AWAY FROM) N/A	on, I	9 AF	MILD-TYPICA	ALLY FATTY
6 N/A	0 1 130	<u> </u>	WAXY	
LIST ALL TOXIC AND HAZARDOUS INGRADIENTS			<u>) WAXY</u> DL O R	
NONE	1	1	OFF-WHITE	TO LT. TAN
7		SF 12	ECIFIC GRAVITY (WATER = 1) APP	ROX. 0.875
			BOILING PT.	
SECTION III — FIRE AND EXPLOSION DATA	IFLASH POINT (METHOD USED	<u> </u>	ABOVE	<u>260 °C</u>
SPECIAL FIRE FIGHTING PROCEDURES	CLOSED CUP APPRO]	500 °F
DO NOT USE HEAVY STREAM	26174 °C345	.ºF	MELTING PT.	25 °C
OF WATER AS FATTY	FLAMMABLE LIMITS %	コレ	APPROX.	
MATERIAL WILL FLOAT.	NOT AVAILABLE	14	L	77 °F
24	27 LOWERUPPER	=	SOLUBILITY	
UNUSUAL FIRE AND EXPLOSION HAZARDS	EXTINGUISHING AGENTS	-11	IN WATER	
	DRYCHEMICAL X CO.	_ I I	°C	NEGLIGIBLE_
ONLY USUAL HAZARDS ASSOCIATED	WATERSPRAY X FOAM	1 -	% VOLATILE	
WITH ORGANIC DUSTS WHERE APPLICABLE.	XWATERFOG XSAND/EAR	TH 16	1 (0)()()	NEGLIGIBLE
25	28 OTHER	┙ ├	EVAP, RATE	
SECTION IV - HEALTH HAZARD DATA		<u> </u>	, '	
PERMISSIBLE CONCENTRATIONS (AIR)		¬ [¹'	(= 1) VAPOR PRESSURE	NEGL I GIBLE
		18	(mm Hg at 20°C)	NEGLIGIBLE
29 NOT ESTABLISHED		⊣⊏	VAPOR DENSITY	
EFFECTS OF OVEREXPOSURE		19	(AIR = 1)	NEGLIGIBLE_
30 NDA			pH AS IS	
TOXICOLOGICAL PROPERTIES		20	ا نین دا	
·			<u> </u>	
31 NDA			STRONG ACID	
EMERGENCY FIRST AID PROCEDURES		- 1-1	STRONG BASE	
32 EYES WASH WITH WATER AND CONTACT PHYSICI	AN IMMEDIATELY		STABLE	
		21	UNSTABLE	0
33 SKIN CONTACT WASH WITH SOAP AND WATER.		1	<u> </u>	
SOME SOME WASH WITH SOME AIR WATER.			VISCOSITY SUS	<100 □
		22	AT 100°F	100 OR > □
34 INHALATION REMOVE TO FRESH AIR.	7/N			
1441	09.1984	23	FOR INDUS	TRIAL
35 IF SWALLOWED CONTACT PHYSICIAN.	· // // // // // // // // // // // // //	$I \mid I \mid$	110	
		1 	USE ONLY	
سا ليا ليا د	<u> المحمد المحمد</u>	' 1 1		

NDA = NO DATA AVAILABLE

NA = NOT APPLICABLE

>= MORE THAN

Witco MATERIAL SAFETY DATA SHEET	PRODUCT_INDUSTRENE®226
	C.A.S. NO. 67701-08-0
SECTION V SPECIAL PROTECTION INFORMATION VENTILATION TYPE REQUIRED (LOCAL, MECHANICAL, SPECIAL)	PROTECTIVE GLOVES
NO SPECIAL VENTILATION NECESSARY UNDER NORMAL CONDITIONS OF USE. LOCAL IF 36 NECESSARY TO CONTROL HEATED FUMES AND/OR VAPORS. RESPIRATORY PROTECTION (SPECIFY TYPE)	38 NEOPRENE TYPE RECOMMENDED EYE PROTECTION 39 CHEMICAL SAFETY GLASSES
USE NIOSH/OSHA APPROVED DUST MASK AND/OR RESPIRATORS WHERE APPROPRIATE.	PROTECTIVE APRON 40 RECOMMENDED
SECTION VI — HANDLING OF SPILLS OR LEAKS	
PROCEDURES FOR CLEAN-UP	
USE ABSORBENT MATERIAL FOR LIQUIDS AND/OR SCOOP SOLIDS DISPOSAL FACILITY. MAYBE INCINERATED OR LANDFILLED. ORDINARY HOUSEKEEPING PROCEDURES ARE ADEQUATE.	; то
WASTE DISPOSAL	
DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.	
SECTION VII — SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	
KEEP CONTAINERS DRY AND CLOSED UNTIL READY FOR USE. F FROM LONG TERM STORAGE TEMPERATURES ABOVE 125 F TO PRO	PROTECT CONTENTS DLONG SHELF LIFE.
SECTION VIII — TRANSPORTATION DATA	
UNREGULATED W.S. D.O.T. PROPER SHIPPING NAME BY D.O.T. 47	
REGULATED U.S. D.O.T. HAZARD CLASS BY D.O.T 48	I.D. NUMBER
TRANSPORTATION EMERGENCY INFORMATION TRANSPORTATION FREIGHT CLASSIFICATION CARREL(S) REQUIRED 51 FREIGHT CLASSIFICATION	
CHEM TREC 1-(800) 424-9300 52 FATTY ACIDS OF VEGETABLE OIL SPECIAL TRANSPORTATION NOTES 53	OCT 1 9 1984
SECTION IX COMMENTS	00. 20.00.
54	
BRUCE MOOF	MAN
SIGNATURE SIGNATURE TITLE REGULATORY	
REVISION DATE JAN. 1. 1984 SENT TO ATTN:	DATE
SUPERSEDES ALL PREVIOUS	

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

MATERIAL SAFETY DATA SHEET PRODUCT __INDUSTRENE®226 2 - MODERATE 1 - SLIGHT 0 - INSIGNIFICANT C.A.S. NO. 67701-08-0 SECTION WITCO MANUFACTURING DIVISION OR SUBSIDIARY EMERGENCY TELEPHONE MANUFACTURER HUMKO CHEMICAL (901) 320-5800 CHEM TREC 1-(800) 424-9300 ADDRESS (NUMBER, STREET, CITY, STATE, ZIP CODE) P.O. BOX 125, 1231 POPE STREET, MEMPHIS, TN 38101-108 FORMULA CHEMICAL NAME OR FAMILY MIXTURE SOYA FATTY ACIDS SECTION II - CHEMICAL AND PHYSICAL PROPERTIES CHEMICAL PHYSICAL HAZARDOUS DECOMPOSITION PRODUCTS FORM

1,	AND GOOD ECONIN CONTROL NO CONTRO		<u> </u>	
5	CO FROM BURNING	ODOR	PASTE	
INCO	MPATIBILITY (KEEP AWAY FROM)	9 MILD-TYPIC	ALLY FATTY	
6	N/A		APPEARANCE	
	ALL TOXIC AND HAZARDOUS INGREDIENTS		10 WAXY	
LIST	ALL TOXIC AND HAZAROOGS INGREDIENTS		COLOR	
	NONE		11 OFF - WHITE SPECIFIC GRAVITY	TO LT. TAN
7			12 (WATER = 1)APP	ROX. 0.875
SECT	TON III - FIRE AND EXPLOSION DATA		BOILING PT.	260 °C
منسومان	IAL FIRE FIGHTING PROCEDURES	FLASH POINT (METHOD USED)	ABOVE	
10.20	DO NOT USE HEAVY STREAM	CLOSED CUP APPROX.	13	500 °F
1	OF WATER AS FATTY	26 <u>174</u> °C <u>345</u> °F	MELTING PT.	25 °C
1		FLAMMABLE LIMITS %	APPROX.	
	MATERIAL WILL FLOAT.	NOT AVAILABLE	14	<u>77°F</u>
24		27 LOWERUPPER	SOLUBILITY	
UNU	SUAL FIRE AND EXPLOSION HAZARDS	EXTINGUISHING AGENTS	IN WATER	
1		R DRYCHEMICAL X CO₂	_AT°C	NEGLIGIBLE
1	ONLY USUAL HAZARDS ASSOCIATED	WATERSPRAY TOAM	15	
1	WITH ORGANIC DUSTS WHERE APPLICABLE.	XWATERFOG XSAND/EARTH	% VOLATILE	
25		28 G OTHER	101	NEGLIGIBLE
			EVAP. RATE	
	ION IV — HEALTH HAZARD DATA		177 = 1)	NEGLIGIBLE
PERM	ISSIBLE CONCENTRATIONS (AIR)		VAPOR PRESSURE	CLUCIAL DEL
<u> </u>		1	18 (mm Hg at 20 °C)	NEGLIGIBLE
29	NOT ESTABLISHED TS OF OVEREXPOSURE	VAPOR DENSITY		
EFFE	LIS OF OVEREXPOSURE	i	19 (AIR = 1)	NEGLIGIBLE
30	NIDA	į.	pH AS IS	
	NDA COLOGICAL PROPERTIES		—	
1		1	20 PH ()	
31	NDA		STRONG ACID	
EMER	IGENCY FIRST AID PROCEDURES		STRONG BASE	
32 EY	YES WASH WITH WATER AND CONTACT PHYSIC	AN IMMEDIATELY.	STABLE	X
135,	ES WASH WITH WALL THE CONTROL THE CO	UNSTABLE		
1.		į.	21	
33 SI	IN CONTACT WASH WITH SOAP AND WATER.		VISCOSITY	
			SUS	< 100 □ 100 OR > □
-		्तिमा	22 AT 100 °F	
34 IN	HALATION REMOVE TO FRESH AIR.	NIII		
	11.7	69.1984	FOR INDUS	TRIAL
35 15	SWALLOWED CONTACT PHYSICIAN.			
"لتم		USE ONLY		

NA = NOT APPLICABLE

Reactivity

Special

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Witco MATERIAL SAFETY DATA SHEET	PRODUCT_INDUSTRENE®226
	C.A.S. NO. 67701-08-0
SECTION V — SPECIAL PROTECTION INFORMATION VENTILATION TYPE REQUIRED (LOCAL, MECHANICAL, SPECIAL)	PROTECTIVE GLOVES
NO SPECIAL VENTILATION NECESSARY UNDER	
NORMAL CONDITIONS OF USE. LOCAL IF	38 NEOPRENE TYPE RECOMMENDED EYE PROTECTION
AFFECCION TO CONTROL LETTER TIME AND AND AND	CTEPROTECTION
RESPIRATORY PROTECTION (SPECIFY TYPE)	39 CHEMICAL SAFETY CLASSES
	OTHER PROTECTIVE EQUIPMENT
USE NIOSH/OSHA APPROVED DUST MASK AND/OR RESPIRATORS	DOCTECTIVE ADDOLU
37 WHERE APPROPRIATE.	PROTECTIVE APRON 40 RECOMMENDED
	RECOMMENDED
SECTION VI — HANDLING OF SPILLS OF LEAKS PROCEDURES FOR CLEAN-UP	
	}
USE ABSORBENT MATERIAL FOR LIQUIDS AND/OR SCOOP SOLIDS	то
DISPOSAL FACILITY, MAYBE INCINERATED OR LANDFILLED.	· ·
ORDINARY HOUSEKEEPING PROCEDURES ARE ADEQUATE.	ļ
41	
WASTEDISPOSAL	
DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL,	
STATE AND FEDERAL REGULATIONS.	
SECTION VII - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	
KEEP CONTAINERS DRY AND CLOSED UNTIL READY FOR USE. PR	
FROM LONG TERM STORAGE TEMPERATURES ABOVE 125 F TO PROL	ONG SHELF LIFE,
SECTION VIII - TRANSPORTATION DATA	
UNREGULATED U.S. D.O.T. PROPER SHIPPING NAME	
44 47	
REGULATED U.S. D.O.T. HAZARD CLASS	I.D. NUMBER
45 BY D.O.T 48	49
TRANSPORTATION RQ LABELIS) REQUIRED	
EMERGENCY 50 51	j
INFORMATION FREIGHT CLASSIFICATION	
CHEM TREC 52 FATTY ACIDS OF VEGETABLE OIL	
1-(800) 424-9300 SPECIAL TRANSPORTATION NOTES	
46 53	OCT 10 1001 1111
SECTION IX - COMMENTS	9 61-13 80' : -)
SECTION IX — COMMENTS	
54	1
	
	
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SIGNATURE TITLE REGULATORY	COMPLIANCE
REVISION DATE JAN. 1. 1984 SENT TO ATTN	DATE
	- Vale
SUPERSEDES ALL PREVIOUS	

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

2051 LANE AVENUE, NORTH (P.O. BOX 6176) JACKSONVILLE, FLORIDA 32205 TELEPHONE (904) 786-1770

EXHIBIT "B"-3

·	_			
PRODUCT TRADE NAME U	NIPINE 80			
CHEMICAL NAME AND SYNONYMS	Synthetic Pine	011		·
CHEMICAL FAMILY Terpene,	Hydrocarbons and Al	cohols	FORMUIA C 10H16	and C _{lo} P
co	MPOSITION/ASSAY, %	, (TYPICAL)		
Kydrocarbons	· .		·	
(alpha-Pinene, Camphene, b. 1,4-Cineole, Limonene, 1,8				
Alcohols and Other Oxygena	ted Compounds			
(Fenchone, Camphor, Fenchy Terpineol.)	l Alcohol, g-Terpir	eol, beta-Ter	pineol, alpha-	
Higher Boiling Materials HEAVY METALS	(Terpin, trans-Anet	hole)	LEVEL Nil	,
ADDITIVES / PRESERVATIVES	None		LEVEL_	
vud	SICAL PROPERTIES (1	VIN - MAY)		
COLOR (APRA) SPECIFIC GRAVITY (15.5/15. FLASH POINT (TCC), °F VAPOR PRESSURE (760 mm) SOLUBILITY IN WATER	10 - 20 5°C) 0.926-0.928 167 190 Nil	INITIAI 5% 95% DRY POI EVAPORATIO		189 200 220 > 1
		VAPOR DENS	SITY (AIR =1)	<u> >]</u>
	NFPA CLASSIFIC	ΛΊΙΟΝ		
HEALTH = 1	FLAMMABILITY =	2	REACTIVITY =	<u> </u>
	PHYSIOLOGICAL FR	OPERTIES		
ACUTE ORAL:	и/и	,	·	
TOXICITY LD ₅₀ DERMAL:	N/A			
EFFECTS UPON EYES: Severe	irritation of muco	ous membranes.		
EFFECTS UPON SKIN: A weak	allergen. Local	irritation on	prolonged exposur	e.
ESTIMATE OF ACUTE HAZARD B prolonged exposure to hig			ation, or bronchi	itis on

Unknown

THRESHOLD LIMIT VALUE (TLV):

INGESTION:

Give one or two glasses of water or milk and call physician. Do not induce vomiting except on advice of physician.

EYE CONTACT:

Flush eye with water for at least fifteen (15) minutes or until all traces of the material have been flushed out. Apply an eye ointment, if available, and have physician examine eye to determine if further treatment is needed or eye damage has occurred.

SKIN CONTACT:

Wash affected parts thoroughly with soap and water to remove the material from the skin. Remove any clothing which has become saturated with the material. Apply an antiseptic first-aid cream to the affected parts. If irritation persists, contact a physician for examination.

INHALATION:

Remove the victim to fresh air. If victim is unconscious or dizziness occurs, treat for shock. Contact physician.

PRECAUTIONS FOR NORMAL USE:

Do not mix with non-terpenic materials unless known to be safe or controllable. Avoid elevated temperatures and open flames when storing or transferring. Do not allow to come in contact with Oxygen.

PROTECTIVE EQUIPMENT:

Use goggles, gloves, and respirator masks (Organic Vapor Removal) where applicable or advisable.

STORAGE REQUIREMENTS:

Store in metal tanks equipped with Flame Arresting devices.

WARGUERITE DICIACCIO : ADVINE IN CASE TO TATA DE LA CASE DE LA CAS

Confine spill to prevent spreading. Material floats on water and may be pumped or skimmed off surface when confined. If not ignited, material spilled on hard surfaces may be sprayed with water to disperse vapors and flush away from exposures to fire.

L1 KR-大工CHATNIPMINIOM ANAWAS:

क्षेत्रकारम नोगान

Water may spread fire. Use Carbon Dioxide, Foam, or Dry Chemical extinguishing mediums. Water may be used to reduce the temperature of adjacent tanks, etc., in preventing their catching fire. Live steam effective in many cases when directed at flames.

WASTE AND CONTAINER DISPOSAL:

Material may be burned in controlled combustion devices or absorbed in suitable disposal beds. Do not allow material to flow into natural waters (ecological reasons) or drainage ditches which may flow by open flames.

U.S. DEPARTMENT OF LABOR
WAGE AND LABOR STANDARDS ADMINISTRATION
BUREAU OF LABOR STANDARDS

D woton

Bureau of Labor Standard	os (W W)
SECTION I	
MANUFACTURER'S NAME ONYX CHEMICAL COMPANY	EMERGENCY TELEPHONE NO. 201 434-1700
ADDRESS (Number, Street, City, Siate, and ZIP Code) 190 Warren Street, Jersey City, No.	7 07302
COCONUT Fatty Acid Diethanolamide	TRADE NAME & SYNCHYMS Super Amide GR
CHEMICAL FAMILY FORMULA R	O'N(CH ₂ CH ₂ OH) ₂

SECTION	N 11 -	HAZA	RDOUS INGREDIENTS		
PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX	·	
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURE	S OF	OTHER LI	OUIDS, SOLIDS, OR GASES	*,	TLV (Units)
SECTION II	NOT	APPLI	CARLE		

	SEC	TION III -	PHYSICAL DATA	
BOILING POINT (°F.)		>212	SPECIFIC GRAVITY (H2O=1) .	.99
VAPOR PRESSURE (mm Hg.)			PERCENT, VOLATILE BY VOLUME (%)	-
VAPOR DENSITY (AIR=1)			EVAPORATION RATE	
SOLUBILITY IN WATER	:	20%		
APPEARANCE AND ODOR	Straw	liquid		

SECTION IV - FIRE AND EX	PLOSION HAZARD DAT	A	
FLASH POINT (Method used) 146 F. Pensky-Martens Closed Cup	FLAMMABLE LIMITS	Lei	Uel
EXTINGUISHING MEDIA Water			
SPECIAL FIRE FIGHTING PROCEDURES NOne			
	·		
UNUSUAL FIRE AND EXPLOSION HAZARDS None			
		*	

,	SECTION V - HEALTH HAZARD DATA
THRESHOLD LIMIT VALUE	
EFFECTS OF OVEREXPOSURE	Inhalation - None
	Skin and Eye - Irritation
Skin and Eye -	PROCEDURES In case of contact, flush with plenty of water. If
irritation pers	ists, call a physician.

		••	SECT	ION VI - R	EACTIVITY	DATA	•	•		
STABILITY	U	INSTABLE		CONDITION	CONDITIONS TO AVOID					
•	S.	TABLE	×							
INCOMPATABIL	JTY (M	aterials to avoid		rong Oxid	dizers					
HAZARDOUS D	ECOMP	OSITION PROD				<u> </u>				
HAZARDOUS		MAY OCC	;UR		CONDITIONS T	O AVOID				
POLYMERIZATI	101	WILL NOT	r occur	х						
							:			

SECTION VII - SPILL OR LEAK PROCEDURES
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Pick up excess with shovel or absorbent material and place in
separate container. Flush remaining with water or if foaming occurs
isopropanol.
WASTE DISPOSAL METHOD Material should be placed in a container and disposed of
according to local provisions.

	SECTION VIII - SPECIA	L PROTECTION I	NFORMATION			
RESPIRATORY P	ROTECTION (Specify Type)					
VENTILATION	LOCAL EXHAUST	 	SPECIAL			
Normal	MECHANICAL (General) OTHER					
PROTECTIVE GL	-	EYE PROTECTIO		:		
OTHER PROTECT	Non-absorbent IVE EQUIPMENT Protective	,	les or faceshield			

		SECTION IX	- SPECIAL PRE	CAUTIONS		
PRECAUTIO	ONS TO BE TAKE	n in handling and st place no lowe	oring of than 50°F.	or high	er than 12	0 ⁰ P.
					•	
OTHER PRE	ECAUTIONS					
						•

PAGE (2)

Form OSHA-20 Rev. May 72



			Si	CTIO	NI					
CHEMICAL NAME & SY	NONYMS							·· ···································		
Ethylene glycol	l monoet	hyl et	her FORMULA C ₂ H ₅ OCH ₂ CH ₂ O	H		TRADE	NAME PO	ly-Solv	ð ee	
Polyalcohol	ME	ADDRES	S						CY TELEPH 3) 356-2345	
OLIN CORPORAT	TION	120 L	ONG RIDGE ROAD,					(20	31 350-2343	· · · · · · · · · · · · · · · · · · ·
		SE		HAZA		SINGRE		77777		TEV
COMPONENT	%	TLV	COMPONENT	- 1	%	TLV	CON	APONENT	*	150
				}		1		`		_ !
	-	 		1	10	00	1			
HAZARDOUS MIXTUR	E OF OTHE	R LIQUID	S, SOLIDS, OR GASE	ES .		-		150		
				<u></u>		14/				
						<u> </u>				
CORROSIVE ACTION	ON MATER	IALS (meta	els,rubber,plastics,etc.) 						
	······································									
			SECTION III			L DATA				
MELTING POINT (OF)			VAPOR PRESSURE	(mm	Hg.)2	0°C _{3.8}	BY VOL	T VOLATIL UME (%)	100	
BOILING POINT (°F)	275		VAPOR DENSITY	AIR=1	3.0)	1 4	ATION RA	0.32	
SPECIFIC GRAVITY (H	2 ⁰⁻¹ 0.	931	SOLUBILITY IN W	ATER	comp	lere	OTHER			
APPEARANCE AND OCCLEAR Liquid,	on Etherea	1								
		SECTION	IV FIRE A	ND E	XPLOS	ION HA	ZARD DA	TA		
FLASH POINT (method	used)	O°F COO	2	····	F	LAMMAB Vol. %	LE LIMITS		Lei .8	Ue) 14.0
EXTINGUISHING MED	eW Al	ter, Fo	oam, CO ₂ , Dry	Chen	nical					
SPECIAL FIRE FIGHTI	NG PROCE	DURES								
									,	
UNUSUAL FIRE AND E	XPLOSION	HAZARD	S.			· · · · · · · · · · · · · · · · · · ·				
	···········	S	ECTION V	HEA	LTH H	AZARD!	DATA			
THRESHOLD LIMIT VA	LUE	EFFECTS	of OVEREXPOSUR	RE to th	ne kio	inevs a	and liv	er		
200 ppm		200	67 , 3 7							
EMERGENCY AND FIR	ST AID PRO	CEDURE With V	s water, can be	abso	orbed	throug	gh the	skin		
EYES: Flush th								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	····	
ingestion: Wash				water	, inc	iuce vo	omiting	, call a	a physic	ian.
INHALATION: Rem										
TOXICOLOGY ACUTE ORAL LD50 6.1 g/kg (rats) EYE IRRITATION Irritant										
ACUTE DERMAL TO	XICITY LD	50 = 3.		3	IMARY	SKIN IRF	ITATION	Not ar	irrita	nt
ACUTE INHALATION	TOXICITY	LC _{FA} =	(rabbic) 1820 ppm for	OT	HER					
7 hours (mice)									

(over)

			OF OTHER				، المستقديمين والمستقد المستقديمين المستقديمين المستقد المستقديمين المستقد المستقد المستقد المستقد المستقد الم المستقد المستقد المستق	
			SECTION		ACTIVITY DATES TO AVOID	TA		
STABILITY		ABLE	-	CONDITIO	AS TO AVOID			
	STAB	- 	x					
INCOMPATABILIT		·						
HAZARDOUS DEC	OMPOSITI	ON PRODUCT	S					
HAZARDOUS		MAY OCCUR			CONDITIONS	TO AVOID		
POLYMERIZATION	v	WILL NOT O	CCUR	X				
		· · · · · · · · · · · · · · · · · · ·		<u> </u>	L			
		SECT	TION VII	SPILL	OR LEAK PRO	CEDURES		
STEPS TO BE TAKE	N IN CAS	E MATERIAL	IS RELEASE	D OR SPILE	ED			
Wear protec	tive c	lothing.	add dry	absorbe	it and shov	el or sweep	117	
		-/						
WASTE DISPOSAL		nccording	to 1000			ral regulation		
<u> </u>		according	LO TOCA	I. Stat	and lede	rai regulatio	ons.	
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RESPIRATOR PROT	ECTION (SECTION	VIII S	PECIAL P	ROTECTION IN	NFORMATION		
NIOSH - app	roved	respirato.	r					
	LOCAL	EXHAUST				SPECIAL		
VENTILATION	MECHA	NICAL (Genera	1)	·····	·	OTHER	**************************************	
PAOTECTIVE GLOV Rubber	ES				PROTECTION			
OTHER PROTECTIVE Coveralls,	EEQUIPM	ENT			afety glass	ses		
COVELATIS,	sarecy		CTION IX	205.01	AL PRECAUT	IONE		
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CAS Number	[]10-80	1-5]	 					
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TOXICOLOGY INFORMATION FURNISHED BY:

Steven J. Barbee, Ph.D. (Toxicologist)

Department of Environmental Hygiene and Toxicoligy





Dow U.S.A.

Material Safety Data Sheet

The Dow Chemical Company Midland, Michigan 48674

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 22366 Page: 1

Product Name: DOWANOL (R) EB ETHYLENE GLYCOL BUTYL ETHER

Effective Date: 12/02/91 Date Printed: 01/16/93 MSDS:000046

INGREDIENTS: (% w/w, unless otherwise noted)

Ethylene glycol n-butyl ether

CAS# 000111-76-2 99%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: 340F
VAP PRESS: 0.88 mmHg @ 25C
VAP DENSITY: (Air = 1) 4.10
SOL. IN WATER: Infinitely.
SP. GRAVITY: .897 @ 25/25C
APPEARANCE: Water white liquid.
ODOR: Ether-like odor.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 150F METHOD USED: TCC

FLAMMABLE LIMITS LFL: 1.1% Vol. UFL: 10.6% Vol.

EXTINGUISHING MEDIA: Water fog, CO2, dry chemical, foam. For large scale fires, alcohol resistant foams are preferred if available. General purpose synthetic foams or protein foams may function, but much less effectively. Water may be used to flush spills away from fire exposures and to dilute spills to non-flammable mixtures. If possible, contain fire run off water.

FIRE & EXPLOSION HAZARDS: Auto ignition temperature is 471F (244C).

Keep unnecessary people away; isolate hazard area and deny unnecessary entry. When using water spray, boil over may

(Continued on page 2, over)
(R) Indicates a Trademark of The Dow Chemical Company

* An Operating Unit of The Dow Chemical Company



Product Code: 22366 Page: 2

Product Name: DOWANOL (R) EB ETHYLENE GLYCOL BUTYL ETHER

Effective Date: 12/02/91 Date Printed: 01/16/93 MSDS:000046

3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

occur when the product temperature reaches the boiling point of water (tank type scenarios, not spills). See also 'STORAGE AND HANDLING' section of this msds.

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained breathing apparatus and full protective equipment.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Prevent contact with zinc, magnesium, and galvanized metals.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing - material.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may produce carbon dioxide and toxic carbon monoxide. Unidentified organic compounds may be formed during combustion.

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Keep out of sewers, storm drains, surface waters and soil. Add absorbent; remove with rubber shovel.

DISPOSAL METHOD: ++DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER++. For unused or uncontaminated material, the preferred management options are to send to a licensed recycler, reclaimer, or incinerator. The same management options are recommended for used or contaminated material, although additional evaluation is required. (see, for example, 40CFR Part 261, "Identification and Listing of Hazardous Waste.") Any disposal practice must be in compliance with federal, state, provincial, and local laws and regulations. Check with appropriate agencies for your location. For additional information, see Section 4 (REACTIVITY DATA) and "REGULATORY INFORMATION".

As a service to its customers, Dow can provide lists of companies which recycle, reprocess or manage chemicals and companies that recondition used drums. Telephone Dow's Customer Information Center at 800/447-4369 or 517/832-1556 for further details.

(Continued on page 3)
(R) Indicates a Trademark of The Dow Chemical Company

* An Operating Unit of The Dow Chemical Company

Product Code: 22366 Page: 3

Product Name: DOWANOL (R) EB ETHYLENE GLYCOL BUTYL ETHER

Effective Date: 12/02/91 Date Printed: 01/16/93 MSDS:000046

6. HEALTH HAZARD DATA:

EYE: May cause moderate eye irritation. May cause moderate corneal injury. Effects may be slow to heal. Vapors may irritate eyes.

SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation.

SKIN ABSORPTION: A single prolonged exposure may result in the material being absorbed in harmful amounts. Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen. The LD50 for skin absorption in rabbits is 220 mg/kg. Repeated minor exposure may result in absorption of harmful amounts.

INGESTION: Single dose oral toxicity is moderate. The oral LD50 for rats is 470 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. One case of massive ingestion (i.e., attempted suicide) reported blood (hemolysis) and kidney effects.

INHALATION: A single prolonged (hours) excessive inhalation exposure may cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract. Observations in animals include blood and kidney effects. The LC50 for rats is 700 ppm in 7 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Observations in animals include blood and kidney effects.

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother.

REPRODUCTIVE EFFECTS: In animal studies, fertility or reproduction were affected only following potentially lethal oral doses.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): Results of mutagenicity tests in animals have been negative. Results of in vitro (test tube) mutagenicity tests have been inconclusive.

7. FIRST AID:

(Continued on page 4, over)
(R) Indicates a Trademark of The Dow Chemical Company

* An Operating Unit of The Dow Chemical Company

Product Code: 22366 Page: 4

Product Name: DOWANOL (R) EB ETHYLENE GLYCOL BUTYL ETHER

Effective Date: 12/02/91 Date Printed: 01/16/93 MSDS:000046

7. FIRST AID: (CONTINUED)

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician if irritation persists. Wash clothing before reuse. Destroy contaminated shoes.

INGESTION: Induce vomiting if large amounts are ingested.

Consult medical personnel.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): OSHA PEL and ACGIH TLV are 25 ppm, skin.

VENTILATION: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. For emergency and other conditions where the exposure guidelines may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse. Contaminated leather items, such as shoes, belts and watchbands, should be removed and destroyed.

EYE PROTECTION: Use chemical goggles. If vapor exposure causes

(Continued on page 5)
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* An Operating Unit of The Dow Chemical Company

Product Code: 22366 Page: 5

Product Name: DOWANOL (R) EB ETHYLENE GLYCOL BUTYL ETHER

Effective Date: 12/02/91 Date Printed: 01/16/93 MSDS:000046

8. HANDLING PRECAUTIONS: (CONTINUED)

eye discomfort, use a full-face respirator.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Handle with care. Avoid all skin and eye contact. Avoid breathing vapor.

Trace quantities of ethylene oxide (E0) may be present in this product. While these trace quantities could accumulate in headspace areas of storage and transport vessels, they are not expected to create a condition which will result in E0 concentrations greater than 0.5 ppm (eight-hour TWA) in the breathing zones of the workplace for appropriate applications. OSHA has established a permissible exposure limit of 1.0 ppm eight-hour TWA for E0. (Code of Federal Regulations, Part 1910.1047 of Title 29).

Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperature possibly resulting in spontaneous combustion.

Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld or perform similar operations on or near empty containers.

Will produce flammable vapors above the flash point.

MSDS STATUS: Revised Regulatory Information.

For information regarding state/provincial and federal regulations see The Regulatory Information Section.
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Product Code: 22366 Page: R-1

Product Name: DOWANOL (R) EB ETHYLENE GLYCOL BUTYL ETHER

Effective Date: 12/02/91 Date Printed: 01/16/93 MSDS:000046

REGULATORY INFORMATION: (Not meant to be all-inclusive--selected regulations represented.)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME CAS NUMBER CONCENTRATION

GLYCOL ETHERS 99 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard A delayed health hazard A fire hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

The CAS number for TSCA is 000111-76-2.

CANADIAN REGULATIONS

(Continued on page R-2 , over)
(R) Indicates a Trademark of The Dow Chemical Company

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0031-0123

Product Code: 22366 Page: R-2

Product Name: DOWANOL (R) EB ETHYLENE GLYCOL BUTYL ETHER

Effective Date: 12/02/91 Date Printed: 01/16/93 MSDS:000046

REGULATORY INFORMATION (CONTINUED)

The Workplace Hazardous Materials Information System (W.H.M.I.S.) Classification for this product is:

B3 D1B D2B

The Transportation of Dangerous Goods Act (T.D.G.A.) classification for this product is:

ETHYLENE GLYCOL MONOBUTYL ETHER Class 6.1/UN 2369/111

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The Information Herein Is Given In Good Faith, But No Warranty,
Express Or Implied, Is Made. Consult The Dow Chemical Company
For Further Information.

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Material Safety Data Sheet

The Dow Chemical Company Midland, Michigan 48674

Page: 1

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-Hour Emergency Phone Number: 517-636-4400

Product: DOWANOL* DM GLYCOL ETHER

Product Code: 22332

Effective Date: 08/23/96

Date Printed: 01/03/97

MSD: 000044

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

Diethylene glycol methyl ether

CAS# 000111-77-3

99%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause pain. May cause slight transient (temporary) eye irritation.

SKIN: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION: Single dose oral toxicity is considered to be low.

Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

INHALATION: Single exposure to vapors is not likely to be hazardous.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Observations in animals

(Continued on page 2 , over)

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MATERIAL SAFETY DATA SHEET PAGE: 2

Product: DOWANOL* DM GLYCOL ETHER

Product Code: 22332

Effective Date: 08/23/96 Date Printed: 01/03/97 MSD: 000044

include kidney, liver and, at very high doses, testicular effects.

TERATOLOGY (BIRTH DEFECTS): In laboratory animals, has been reported to cause slight toxic effects to the fetus at doses nontoxic to the mother following skin contact. Birth defects have been reported in lab animals only following high oral doses, exposures which have little relevence to potential human exposure.

4. FIRST AID

EYE: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASH POINT: 197F,92C
METHOD USED: Setaflash

AUTOIGNITION TEMPERATURE: Not determined.

FLAMMABILITY LIMITS

LFL: 1.38% UFL: 22.7%

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: carbon monoxide, carbon dioxide.

OTHER FLAMMABILITY INFORMATION: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures

(Continued on page 3)

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Product: DOWANOL* DM GLYCOL ETHER

Product Code: 22332

Effective Date: 08/23/96 Date Printed: 01/03/97 MSD: 000044

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possibly resulting in spontaneous combustion.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

MEDIA TO BE AVOIDED: Do not use direct water stream.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. For large spills, warn public of downwind explosion hazard. Check area with explosion meter before reentering area. Ground and bond all containers and handling equipment.

PROTECT THE ENVIRONMENT: Vapor explosion hazard, keep out of sewers.

CLEANUP: Pump with explosion-proof equipment. Absorb with material such as dirt or sand. If available, use foam to smother or suppress.

7. HANDLING AND STORAGE

HANDLING: Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. No smoking, open flames or sources of ignition in handling and storage area. Never use air pressure for transferring product. Electric-

(Continued on page 4, over)
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PAGE: 4

Product: DOWANOL* DM GLYCOL ETHER

Product Code: 22332

Effective Date: 08/23/96 Date Printed: 01/03/97 MSD: 000044

ally ground all equipment.

STORAGE: Use of non-sparking or explosion proof equipment may be necessary, depending upon the type of operation. Minimize sources of ignition, such as static buildup, heat, spark or flame. Keep containers tightly closed when not in use. Store in carbon steel, stainless steel, Teflon.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator.

EXPOSURE GUIDELINE: Diethylene glycol methyl ether: Dow IHG is 30 ppm.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Colorless liquid.

ODOR: Mild odor.

VAPOR PRESSURE: .25 mmHg @ 25C

VAPOR DENSITY: 4.16

BOILING POINT: 381F, 194C

SOLUBILITY IN WATER/MISCIBILITY: Completely miscible.

SPECIFIC GRAVITY OR DENSITY: 1.021 @ 25/25C

VOLATILE ORGANIC COMPOUNDS (VOC) CONTENT: 1021 g/L or 8.47 lb/gal as per Rule 443.1 of California SCAOMD

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under recommended storage conditions. See Storage Section.

(Continued on page 5)
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Product: DOWANOL* DM GLYCOL ETHER

Product Code: 22332

Effective Date: 08/23/96 Date Printed: 01/03/97 MSD: 000044

PAGE: 5

CONDITIONS TO AVOID: Avoid static discharge. Flammable vapors can be released at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Does not normally decompose. Hazardous decomposition products depend upon temperature, air supply and the presence of other materials.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The LD50 for skin aborption in rabbits is 20 ml/kg.

INGESTION: The oral LD50 for rats is > 7000 mg/kg.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low (BCF less than 100 or Log Pow less than 3). Log octanol/water partition coefficient (log Pow) is estimated using the Pomona-MedChem structural fragment method to be -0.682.

DEGRADATION & PERSISTENCE: Biodegradation under aerobic static laboratory conditions is high (BOD or BOD/ThOD greater than 40%). 20-Day biochemical oxygen demand (BOD20) is 1.14 p/p. 10-Day biochemical oxygen demand (BOD) is 0.36 p/p. 5-Day biochemical oxygen demand (BOD5) is 0.00 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.73 p/p. Biodegradation rate may increase in soil and/or water with acclimation.

ECOTOXICITY: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (Pimephales promelas) is 5741 mg/L. Acute LC50 for water flea (Daphnia magna) is 1192 mg/L. Acute LC50 for emerald shiner (Notropis atherinoides) is greater than 500 mg/L.

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

(Continued on page 6, over)
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PAGE: 6

Product: DOWANOL* DM GLYCOL ETHER

Product Code: 22332

Effective Date: 08/23/96 Date Printed: 01/03/97 MSD: 000044

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

As a service to its customers, Dow can provide lists of companies which recycle, reprocess or manage chemicals or plastics, and companies that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 517-832-1556 for further details.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.): For DOT regulatory information, if required, consult transportation regulations, product shipping papers or contact your Dow representative.

CANADIAN TDG INFORMATION: This product is not regulated by TDG when shipped domestically by land.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

(Continued on page 7)
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MATERIAL SAFETY DATA SHEET PAGE: 7

Product: DOWANOL* DM GLYCOL ETHER

Product Code: 22332

Effective Date: 08/23/96 Date Printed: 01/03/97 MSD: 000044

REGULATORY INFORMATION (CONTINUED)

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME CAS NUMBER CONCENTRATION

GLYCOL ETHERS 99 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

A delayed health hazard A fire hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

The CAS Number for TSCA is 111-77-3.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME

CAS NUMBER LIST

DIETHYLENE GLYCOL MONOMETHYL ETHER

O00111-77-3 PA1

PAl=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

(Continued on page 8, over)
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0031-0131

PAGE: 8

Product: DOWANOL* DM GLYCOL ETHER

Product Code: 22332

Effective Date: 08/23/96 Date Printed: 01/03/97 MSD: 000044

REGULATORY INFORMATION (CONTINUED)

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health 2 Flammability 2 Reactivity 0

CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

B3 - combustible liquid with a flash point between 37.80 and 93.30 D2A - material is teratogenic, embryotoxic, or fetotoxic Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

CPR STATEMENT: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS:

CAS #

AMOUNT (%w/w)

DIETHYLENE GLYCOL METHYL ETHER 000111-77-3

99%

16. OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health 2 Flammability 2 Reactivity 0

MSDS STATUS: Revised Sections 3-16.

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For Further Information.

THE DOW CHEMICAL COMPANY

GUALITY ASSURANCE OF ICE

SALES SPECIFICATION

DATE PRINTED: 23 SEP 93

PRODUCT: 22002 EFFECTIVE: 07 AUG 90 SUPERSEDES: 11 MAY 88

NAME: DOWANGE (R) DM GEYCOL ETHER

DESC: SLIGHTLY COLURED LIGHT)

REPOLITION						
1TEM	0 100 B11 ME 000 New Stri 100 Est at	LIMIT	UNIT	METHOD		
DISTILLATION RANGE MM HG: [BP-DP	Ø 760	192-196	C	223321		
SPECIFIC GRAVITY &	25/25 0	1.017-1.021		223327		
ACIDITY (AS ACETIC	ACID) .	0.08	γ.	2(2992 (
APHA COLOR, MAX		10		223323		
IATER - MAX		0.10	%	22392.		
CEAD PRECAUTIONARY	INFORMATI	ON AND MATERIAL	SAFETY	SHEETS.		

THIS PRODUCT IS SHIPPED IN COMPLIANCE WITH APPLICABLE LAWS AND EGULATIONS REGARDING CLASSIFICATION: PACKAGING, SHIPPING AND LABELING.

R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY LAST PAGE

BAYONNE TERMINAL

CERTIFICATE OF ANALYSIS

DATE: 010297

SHIP TO:

FISH-CALLAHAN CHEMICAL COMPANY

INC

WALPOLE , MA 020810000

CUSTOMER ORDER NUMBER: 1230611-B LOT NUMBER : KL26019752

MATERIAL : DOWANOL* DM GLYCOL ETHER BULK

DOW INVOICE NUMBER : 025165600001

SHIPPED FROM: BAYONNE, NJ

I CERTIFY :

TEST	LIMITS	RESULT
COLOR,APHA,MAX. DISTILLATION RANGE @ 760	10	3
MM HG, IBP - DP	191.0 - 198.0	193.0 - 195.0
SPECIFIC GRAV. @ 25/25 C	1.017 - 1.021	1.018
ACIDITY, AS ACETIC, % MAX.	0+01	0.002
WATER,%,MAX.	0.10	0.015
APPEARANCE	CLEAR & FREE FROM	CONFORMS
	FOREIGN MATTER	
DIST.RANGE FOR MIL-I-8547	. 192-196	193.0-195.0
IDENTIFICATION (G.C.)	MATCHES STANDARD	MATCHES
ACID NUMBER, MAX	0.09	LESS THAN 0.09
ETHYLENE GLYCOL,% MAX.	0.5	0.09
SPECIFIC GRAVITY@ 200	1.021 - 1.025	1+022
PH(25% IN WATER)	5.0 - 8.5	7 • 6
FLASH PT, MIN.	85 C	GREATER THAN 85C
ANTIOXIDENT PPM	50 - 150	CONFORMS
MEETS MILITARY SPECS.		
MIL-I-85470		
DIETHYLENE GLYCOL METHYL		
ETHER, MIN.	99.0 %	99.9

This certificate of analysis applies to the bulk product as loaded into ARCT vehicle 94 /550 on 02-Jan-97

These tests are certified by lot analysis and are noty permally made on individual shipments.

Pówell Duffryn Laboratory For : DOW NORTH AMERICA 2 COMMERCE STREET

BAYONNE, NEW JERSEY 07002

0031-0134

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WO 00-

SENT BY:M. S. S. NETWORK ; 9-18-98; 10:37; WFAX0016 VMA0004 9088 18SEP98 1020/1021

TO: LEONA WATKINS

INTER POLYMER CORPORATION

200 DAN ROAD

CANTON MA 02021

EXHIBIT "B"-8

PAGE 1

7818215218;# 1

UNION CARBIDE CORPORATION

MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE 06/30/97

Union Carbide urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers, and other users of the product of this information.

I. IDENTIFICATION

PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE

CHEMICAL NAME: Ethylene Glycol

CHEMICAL FAMILY: Glycols

FORMULA: HOC2H4OH

MOLECULAR WEIGHT: 62.07

SYNONYMS: EG; Glycol: 1, 2-Ethanedibl

CAS # AND NAME:

107-21-1

1, 2 Ethanedic

II. PHYSICAL DATA (Determined on typical material)

BOILING POINT, 760 mm Hg: >197 C (>387 F)

SPECIFIC GRAVITY (H20 = 1): 1.115 at 20/20 °C

Copyright 1997, Union Carbide

EMERGENCY PHONE NUMBERS: 1-800-UCC-HELP (Number available at all times) OR (304) 744-3487.

UNION CARBIDE CORPORATION

39 Old Ridgebury Road, Danbury, CT 06817-0001

PAGE 2

PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE

0031-0135

SENT BY FALS. S. NETWORK ; 9-18-95 ; 1ม:38 ; r - 4 ∠ → 10102102101- 2

FREEZING POINT: -13 C (9 F)

VAPOR PRESSURE AT 20'C: 0.06 mmHg

VAPOR DENSITY (air = 1): 2.1

EVAPORATION RATE:

(Butyl Acetate = 1):

SOLUBILITY IN WATER by wt: 100%

APPEARANCE:

Transparent coloriess

opor:

100

Mild sweet

PHYSICAL STATE: Liquid

III. INGREDIENTS

CAS# EXPOSURE LIMIT MATERIAL

107-21-1 See Section V Ethylene Glycol

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method(s)):

241 F (116 C)

Tag Closed Cup ASTM D 56

240 F (115, 6 C)

Cleveland Open Cup ASTM D 92

FLAMMABLE LIMITS IN AIR, by volume:

Approx. 3.2 (Ethylene Glycol) LOWER:

UPPER: 15.3 (Estimated)

EXTINGUISHING MEDIA:

Apply alcohol-type or all-purpose-type foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES:

Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity.

Use self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

See "Other Precautions" in Section IX.

PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE

PAGE 3

V. HEALTH HAZARD DATA

V. NEGETO NAZARO DATA

F 44'

TLV AND SOURCE:

-Ethylene glycol: 100 mg/m3 (39.4 ppm) Ceiling, Aerosol, ACGIH 125 mg/m3 (50 ppm) Ceiling, Vapor and Mist, OSHA Internal Exposure Limit:

100 mg/m3 (39.4 ppm) Ceiling, Aerosol and Vapor

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING:

May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, lumbar pain, oliguria, uremia, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage follows the swallowing of large volumes of ethylene glycol. May be fatal. A few reports have been published describing the development of weakness of the facial muscles, diminished hearing, and difficulty with swallowing, during the late stages of severe poisoning.

SKIN ABSORPTION:

No evidence of harmful effects from available information.

INHALATION:

May cause irritation of the nose and throat with headache, particularly from mist. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may produce nausea, vomiting, headache, dizziness, and irregular eye movements.

SKIN CONTACT:

No evidence of harmful effects from available information.

EYE CONTACT:

Liquid, vapor, or mist causes irritation, experienced as stinging, excess blinking and tear production, with excess redness of the conjunctiva. Injury to the cornea is not expected.

EFFECTS OF REPEATED OVEREXPOSURE:

Repeated inhalation of ethylene glycol mist may produce signs of central nervous system involvement, particularly dizziness and nystagmus.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

May aggravate an existing kidney disease.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations of 150, 1000 and 2500 mg/m3 for 6 hours a day throughout the

PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE

period of organogenesis, teratogenic effects were produced at the highest concentration, but only in mice. The conditions of these latter experiments

0031-0137

JENT DITTE 3. 3. NETWORK ; 9-18-98 ; 10:40 ; P-42→ 7515215215, = 4 did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1000 and 2500 mg/m3) and developmental toxicity with minimal evidence of teratogenicity (2500 mg/m3). The no-effects concentration (based on maternal toxicity) was 500 mg/m3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen. There is currently no available information to suggest that ethylene glycol has caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity. Exposure to high aerosol concentrations is only minimally effective in producing developmental toxicity. The major route for producing developmental toxicity is perorally.

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence, or a different pattern of tumors compared with untreated controls. The absence of a carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

OTHER EFFECTS OF OVEREXPOSURE:

Repeated skin contact with ethylene glycol may, in a very small proportion of cases, cause sensitization with the development of allergic contact dermatitis. The incidence is significantly less than 1% with the undiluted material.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING:

If patient is fully conscious, give two glasses of water. Induce vomiting. This should be done only by medical or experienced first—aid personnel. Obtain medical attention without delay. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whiskey. For children, give proportionally less liquor, according to weight.

SKIN:

Remove contaminated clothing. Wash skin with soap and water. Obtain medical attention if irritation persists. Wash clothing before reuse.

INHALATION

Remove to fresh air. Dbtain medical attention if symptoms persist.

EYES:

Immediately flush eyes with water and continue washing for several minutes. Remove contact lenses, if worn. Obtain medical attention.

NOTES TO PHYSICIAN:

It is estimated that the lethal oral dose of ethylene glycol to adults is of the order of 1.0 ml/kg. Ethylene glycol is metabolized by alcohol

PAGE 5

PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE

dehydrogenase to various metabolites including glycoaldehyde, glycolic acid, and oxalic acid, which cause an elevated anion-gap metabolic acidosis and renal tubular injury. The signs and symptoms in ethylene glycol poisoning are those

of metabolic acidosis, CNS depression, and kidney injury. Urinalysis may show albuminuria, hematuria and oxaluria. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia.

The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis, and prevention of kidney injury. It is essential to have immediate and follow-up urinalysis and clinical chemistry. There should be particular emphasis on acid-base balance and renal function tests. A continuous infusion of 5% sodium bicarbonate with frequent monitoring of electrolytes and fluid balance is used to achieve correction of metabolic

As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal. Given in the early stages of intoxication, it blocks the formation of nephrotoxic metabolites. A therapeutically effective blood concentration of ethanol is in the range 100-150 mg/dl, and should be achieved by a rapid loading dose and maintained by intravenous infusion.

For severe and/or deteriorating cases, hemodialysis may be required. Dialysis should be considered for patients who are symptomatic, have severe metabolic acidosis, a blood ethylene glycol concentrations greater than 25 mg/dl, or compromise of renal functions.

4-Methylpyrazole, a potent inhibitor of alcohol dehydrogenases, has been effectively used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis, coma, seizures, and renal failure have occurred.

Additional therapeutic measures may include the administration of cofactors involved in the metabolism of ethylene glycol. Thiamine (100 mg) and pyridoxine (50 mg) should be given every six hours.

Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. The mechanism of production has not been elucidated, but it appears to be non-cardiogenic in origin in several cases. Respiratory support with mechanical ventilation and positive end-expiratory pressure may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing, and dysphagia.

VI. REACTIVITY DATA

STABILITY: Stable

acidosis and forced diuresis.

CONDITIONS TO AVOID:

None known.

INCOMPATIBILITY (materials to avoid):

Explosive decomposition may occur if combined with strong acids or strong bases and subjected to elevated temperatures. Therefore, avoid strong acids and strong bases at elevated temperatures. Avoid contamination with strong oxidizing agents and materials reactive with hydroxyl compounds.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

PAGE 6

PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE

Burning can produce the following products:

Carbon monoxide and/or carbon dioxide.

Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.

P-42+ /5/52/52/6+# 0

·HAZÁRDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID:

None known.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Wear suitable protective equipment. Large spills should be contained and collected. Small spills can be collected or may be absorbed with appropriate liquid absorbing materials. All spill response and disposal should be carried out in accordance with Federal, State, and local requirements.

WASTE DISPOSAL METHOD:

Ethylene glycol from many applications is readily reclaimed; reclamation of ethylene glycol from spent fluids is encouraged where possible. At low concentrations in water this product is biodegradable in a biological wastewater treatment plant.

Where ethylene glycol reclamation or sewering are not viable, this product may be incinerated where permitted under Federal, State and local regulations.

VIII. SPECIAL PROTECTION

RESPIRATORY PROTECTION (specify type):

If personnel exposure exceeds exposure limits 39.4 ppm (100 mg/m3) (aerosol and vapor combined) at any time, select respiratory protection equipment in accordance with 29CFR1910.134. NIOSH-approved atmosphere-supplying respirator or a NIOSH-approved air-purifying respirator with organic vapor cartridge and dust/mist pre-filter is recommended.

VENTILATION:

General (mechanical) room ventilation may be adequate, if handled at ambient temperatures or in covered equipment. If ambient temperatures are exceeded or operations exist which may produce misting, local exhaust ventilation or other engineering controls may be required.

PROTECTIVE GLOVES:

PVC-coated

EYE PROTECTION:

Monogoggles or Faceshield

OTHER PROTECTIVE EQUIPMENT:

Eye Bath, Safety Shower

IX. SPECIAL PRECAUTIONS

PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE

PAGE 7

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

DANGER!

HARMFUL OR FATAL IF SWALLOWED.

CAUSES EYE IRRITATION.

PROLONGED OR REPEATED BREATHING OF AEROSOL OR VAPOR IS HARMFUL.

MAY CAUSE KIDNEY AND NERVOUS SYSTEM DAMAGE. CAUSES BIRTH DEFECTS IN LABORATORY ANIMALS.

Do not swallow.

Avoid contact with eyes.

Avoid prolonged or repeated breathing of aerosol and vapor.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

FOR INDUSTRY USE ONLY

OTHER PRECAUTIONS:

ADDITIONAL INFORMATION: Additional product safety information on this product may be obtained by calling your Union Carbide Corporation Sales or Customer Service contact.

Ask for the brochure:

Product Information Bulletin on Ethylene Glycol.

PROCESS HAZARD: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into hot equipment under a vacuum, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions.

Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors."

X. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

Acetic Acid

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

FEDERAL EPA

Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4.

Components present in this product at a level which could require reporting under the statute are:

CHEMICAL	CAS NUMBER	CONCENTRATION %
PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE		PAGE 8
Ethylene Glycol	107-21-1	100

64-19-7

1, 4-Dioxane 123-91-1 0.00005

0.005

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 311 and 312).

Components present in this product at a level which could require reporting under the statute are:

*** NONE ***

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

CHEMICAL Ethylene Glycol CAS NUMBER 107-21-1

UPPER BOUND CONCENTRATION %

TSCA INVENTORY STATUS:

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

STATE RIGHT-TO-KNOW

CALIFORNIA Proposition 65

This product contains trace levels of 1, 4-DIOXANE known to the State of California to cause cancer.

Upper bound concentration is 0.00005%.

MASSACHUSETTS 105 CMR 670.000 Right-To-Know, Substance List (MSL)

Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

HAZARDOUS SUBSTANCES (≈> 1%)

CHEMICAL Ethylene Glycol CAS NUMBER 107-21-1

UPPER BOUND CONCENTRATION %

PAGE 9

PRODUCT NAME: ETHYLENE GLYCOL, INDUSTRIAL GRADE

PENNSYLVANIA Right-To-Know, Hazardous Substance List Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

HAZARDOUS SUBSTANCES (=> 1%)

υμπ. υπ. κ. υ. κεινυπα ; επίδησο το 10:46 ;

10102102101# 0 UPPER BOUND CAS NUMBER CONCENTRATION % 100

107-21-1

Printed in USA

· CHEMICAL Ethylene Glycol

CALIFORNIA SCAQMD RULE 443.1 VOC'S:

VOC. 1111.00 G/L; Vapor Pressure 0.06 mmHg at 20C.

OTHER REGULATORY INFORMATION:

EPA Hazard Categories: Immediate Health, Delayed Health

NOTE ----

The opinions expressed herein are those of qualified experts within Union Carbide. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of Union Carbide, it is the user's obligation to determine the conditions of safe use of the product.

Date: 10/31/88

REVISION DATE: 06/30/97

REVISED SECTIONS

Section II - Physical Data

Section VIII- Special Protection

Section IX - Special Precautions

Section X - Regulatory Information

35202 PRODUCT: F NUMBER: NO178H FROM SCVM370 AAJCCS1

; MRI-00374



UNION CARBIDE CHEMICALS AND PLASTICS COMPANY INC. Industrial Chemicals Division



EXHIBIT "B"- 9

MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE: 09/12/89

Union Carbide urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material of the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers, and other users of the product of this information.

I. IDENTIFICATION (TRIVOP
PRODUCT NAME: TERGITOL NONIONIC SURFACTANT NP-9 (0-630 X-100)
CHEMICAL NAME: Nonyiphenol Polyethylene Glycol Ether
CHEMICAL FAMILY: Nonionic Surfactant
FORMULA: C33H60O10 MOLECULAR WEIGHT: 616 (Average)
SYNONYMS: An alkylphenol-hydroxypolyoxyethylene
CAS # and (26027-38-3) 906-45-49 9016-45-49 CAS NAME: Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenol)-omega-hydroxy-
II. PHYSICAL DATA (Determined on typical material)
BOILING POINT, 760 mm Hg: >250C (>482F) (Decomposes)
FREEZING POINT: 3.8 C (38.8 F)
SPECIFIC GRAVITY(H2O = 1): VAPOR RRESSURE AT 20°C: <0.01 min Hg
VAPOR DENSITY (air = 1): >1 SOLUBILITY IN WATER by wt: 3.2 Slight haze
EVAPORATION RATE (Butyl Acetate = 1): <0.01
APPEARANCE AND ODOR: Cloudy liquid; mild characteristic odor.
Copyright 1985, 1989 Union Carbide Chemicals & Plastics Technology Corp. UNION CARBIDE is a Trademark of Union Carbide Corporation USA TERGITOL is a Trademark of Union Carbide Chemicals & Plastics Technology Corp. EMERGENCY PHONE NUMBER: 1-800-UCC-HELP (Number available at all times)

UNION CARBIDE CHEMICALS AND PLASTICS COMPANY INC.
Industrial Chemicals Division
39 Old Ridgebury Road, Danbury, CT. 06817-0001

HOUGHTON CHEMICAL CORPORATION 52 CAMBRIDGE ST. (PO BOX 307) ALLSTON, MA 02134 PH. # (617) 254-1010 PRODUCT NAME:

TERGITOL NONIONIC SURFACTANT NP-9

III. INGREDIENTS

MATERIAL

%

TLV (Units)

HAZARD

Nonylphenol Ethoxylate

100

None established

See Section V

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT

(test method(s)):

477 F, Pensky-Martens closed cup ASTM D 93

540 F, Cleveland open cup ASTM D 92

FLAMMABLE LIMITS IN AIR,

% by volume:

LOWER: UPPER:

Not determined Not determined

Water spray (fog), alcohol-type, or all purpose-type foams applied by manufacturers' recommended techniques for large fires. Carbon dioxide

or dry chemical for small fires.

SPECIAL FIRE FIGHTING

EXTINGUISHING MEDIA:

PROCEDURES:

Do not direct a solid stream of water or foam into hot, burning pools;

this may cause frothing and increase fire intensity. Use self-contained

breathing apparatus and protective clothing.

UNUSUAL FIRE AND

EXPLOSION HAZARDS: This material may produce a floating fire hazard.

V. HEALTH HAZARD DATA

TLV AND SOURCE:

None established by ACGIH or OSHA.

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING:

May cause nausea, abdominal discomfort, vomiting, and diarrhea.

SKIN ABSORPTION:

Prolonged or widespread exposure may result in the absorption of potentially

harmful amounts of material.

INHALATION:

Mists may cause chest discomfort and coughing.

SKIN CONTACT:

Brief contact with this material should not produce any harmful effects but prolonged contact, as from clothing wet with the material, may cause

irritation.

EYE CONTACT:

Causes pain and severe excess reddening and swelling of the conjunctiva, with

possible chemical burns.

EFFECTS OF REPEATED OVEREXPOSURE:

Repeated skin contact may result in the development of a cumulative dermatitis.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to

aggravate existing medical conditions.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN

HEALTH HAZARD EVALUATION: Studies involving the sustained occluded contact of undiluted material with rabbit skin indicate that such conditions may result in the development of

inflammatory changes in the lung. We are currently embarked upon a series of studies to further examine these potential effects and their possible relevance, if any, to human health exposure.

XPOSURE:

OTHER EFFECTS OF OVEREXPOSURE:

Because of its irritant and surfactant properties, breathing vapor or mist of this material, as might be generated in spraying or heating applications, may result in lung injury similar to that observed following exposure by direct deposition of surfactant into the lung.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING:

Give two glasses of water. Do not induce vomiting. Call a physician promptly.

Remove contaminated clothing. Flush skin with plenty of water. If contact has been widespread and/or prolonged, or if irritation persists, call a physician. Wash clothing before reuse.

INHALATION:

Remove to fresh air. Call a physician if discomfort persists.

EYES: Immediately flush eyes with plenty of water and continue flushing for at least 15 minutes. Get medical care, preferably from an ophthalmologist, urgently.

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Due to the irritant and surfactant action of the material, if it is aspirated during swallowing or vomiting, there may be lung injury. Therefore, emesis should not be induced by mechanical or pharmacological means. If it is considered that evacuation of the stomach contents is necessary, this should be done by means

least likely to result in aspiration (e.g., the use of gastric lavage in the presence of endotracheal intubation).

VI. REACTIVITY DATA

STABILITY: Stable

NOTES TO PHYSICIAN:

CONDITIONS TO AVOID: None

INCOMPATIBILITY (materials to avoid):

Normally unreactive; however, avoid strong bases at high temperatures, strong acids, strong oxidizing agents and materials reactive with hydroxyl

compounds.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

Burning can produce carbon monoxide and/or carbon dioxide.

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: None

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Wear eye protection. Collect for disposal. Highly toxic to fish! Avoid discharge to natural waters.

WASTE DISPOSAL METHOD: Incinerate in a furnace, where permitted under appropriate Federal, State, and local regulations. See Section IX.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type):

None expected to be needed.

VENTILATION:

General (mechanical) room ventilation is expected to be satisfactory.

PROTECTIVE GLOVES:

PVC - coated

EYE PROTECTION:

Monogoggles

OTHER PROTECTIVE EQUIPMENT:

Eye bath and safety shower.

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

DANGER! Causes eye burns.

Causes skin irritation.

Aspiration may cause lung damage.

Do not get in eyes.

Avoid contact with skin and clothing.

Do not swallow.

Use with adequate ventilation.

Keep container closed.

Wash thoroughly after handling.

FOR INDUSTRY USE ONLY

OTHER PRECAUTIONS:

This product is not readily biodegradable in a wastewater treatment system and is highly toxic to aquatic life. The preferred method of disposal is incineration.

This product may contain trace amounts of ethylene oxide (CAS No. 75-21-8), a condition which creates the potential for accumulation of ethylene oxide in the head space of shipping and storage containers and in enclosed areas where the product is being handled or used. Ethylene oxide is considered by OSHA, IARC, and NTP as a potential carcinogen for humans. OSHA considers that, at excess levels, ethylene oxide may present reproductive, mutagenic, genotoxic, neurologic and sensitization hazards in humans. If this product is handled with adequate ventilation, the presence of these trace amounts is not expected to result in any short or long term hazard.

This product may not be exempt for OSHA's ethylene oxide standard, 29CFR1910.1047. Users should comply with all applicable provisions. Personnel should be monitored to determine levels of exposure to ethylene oxide. If necessary, protective measures should be taken. The OSHA permissible exposure limit for ethylene oxide is 1 ppm TWA8, the action level is 0.5 ppm TWA8, the ACGIH TLV is 1 ppm TWA8 and OSHA has established an excursion limit of 5 ppm (15 minute average).

WARNING: Hot organic chemical vapors or mists are susceptible to sudden spontaneous combustion when mixed with air, Ignition may occur at temperatures below those published in the literature as "autoignition" or "ignition" temperatures, Ignition temperatures decrease with increasing vapor volume and vapor/air contact time, and are influenced by pressure changes.

Ignition may occur at typical elevated-temperature process conditions, especially in processes operating under vacuum if subjected to sudden ingress of air, or outside process equipment operating under elevated pressure if sudden escape of vapors or mists to the atmosphere occurs.

Any proposed use of this product in elevated—temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained.

X. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

FEDERAL EPA

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4.

Components present in this product at a level which could require reporting under the statute are:

UPPER BOUND

CHEMICAL

CAS NUMBER 75-21-8

CONCENTRATION %

Ethylene Oxide Dioxane

123-91-1

.0020

Superfund Amendments and Reauthorization

Act of 1986 (SARA) Title III

requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

Components present in this product at a level which could require reporting under the statute are:

*** NONE ***

Superfund Amendments and Reauthorization

Act of 1986 (SARA) Title III

requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

UPPER BOUND

1.9

CHEMICAL

CAS NUMBER

R CONCENTRATION %

Glycol Ether

Not Applic.

STATE RIGHT-TO-KNOW

CALIFORNIA Proposition 65

This product contains trace levels of ACETALDEHYDE, DIOXANE, ETHYLENE OXIDE AND FORMALDEHYDE which the state of California has found to cause cancer, birth

defects or other reproductive harm.

MASSACHUSETTS Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

EXTRAORDINARILY HAZARDOUS SUBSTANCES (=> 0.0001%)

UPPER BOUND

CHEMICAL Ethylene Oxide CAS NUMBER 75-21-8

CONCENTRATION %

Dioxane Acetaldehyde 123-91-1 75-07-0

.001*5*

Formaldehyde

50-00-0

.0004

PENNSYLVANIA Right-To-Know, Hazardous Substance List Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

*** NONE ***

Toxic Substances Control Act(TSCA) STATUS:

The ingredients of this product are on the TSCA inventory.

CALIFORNIA SCAQMD RULE 443.1 VOC'S:

Not presently available

OTHER REGULATORY INFORMATION:

*** NONE ***

The opinions expressed herein are those of qualified experts within Union Carbide Chemicals and Plastics Company. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of Union Carbide Chemicals and Plastics Company, it is the user's obligation to determine the conditions of safe use of the product. REVISED SECTIONS:

This MSDS was revised to include:

- New Health Hazard Data (Refer to Section V).
- A warning statement on the potential for vapors and mists to spontaneously ignite under certain conditions (Refer to Section IX - Other Precautions).
- Information needed for SARA, Title III reporting (Refer to Section X -Superfund Amendments and Reauthorization Act of 1986).

PC: 84863

F NUMBER: NO024A

ISOPROPYL ALCOHOL (99%)

MSDS No. HCR000125

Rev. Date 11/03/92



ARCO CHEMICAL COMPANY 3801 WEST CHESTER PIKE NEWTOWN SQUARE, PA. 19073

EXHIBIT "B"-/O

DOT Hazard Class

3 (FLAMMABLE LIQUID)

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accord

with the MSDS requirements of the rule.

Trade Name ISOPROPYL ALCOHOL 99%		Telephone Numbers EMERGENCY
Other Names	DIMETHYL CARBINOL; IPA; 2-PROPANOL; ISOPROPANOL;	800/424-9300 CHEMTREC 215/353-8300 ARCO CHEM CUSTOMER SERVICE 800/321-7000 INFO ONLY

Generic Name C3 ALCOHOL

CAS No.

SEE SECTION IX

Company

E000012500

UN/NA ID No.

UN 1219

II. Summary of Hazards DANGER

SEE SUPPLEMENT BEGINNING ON PAGE 6

PHYSICAL HAZARDS:

EXTREMELY FLAMMABLE LIQUID

ACUTE HEALTH EFFECTS:

(SHORT-TERM)

SEVERE EYE IRRITANT SLIGHT INHALATION HAZARD SLIGHT INGESTION HAZARD

NO SKIN ABSORP. HAZARD IDENTIFIED FROM DATA FOUND NO SKIN IRRIT. HAZARD IDENTIFIED FROM DATA FOUND

CHRONIC HEALTH EFFECTS:

(LONG-TERM)

CHRONIC OVEREXPOSURE TO ISOPROPANOL CAN BE

IRRITATING TO MUCOSAL MEMBRANES. SEE SUPPLEMENTAL SHEET FOR ADDITIONAL CHRONIC HEALTH HAZARD

INFORMATION.

Fire and Explosion III.

Flash Point (Method)

(CC

Autoignition Temperature (Method)

750°F

Flammable Limits (% Vol. in Air) At Normal Atmospheric Temperature and Pressure Lower AP 2 Upper AP

Fire and Explosion Hazards

RELEASES FLAMMABLE VAPORS BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. DILUTING WITH WATER MAY NOT SUFFICE TO RAISE FLASH POINT ABOVE AMBIENT TEMPERATURES.

DRY CHEMICAL CO2

WATER FOG

Extinguishing WATERSPRAY Media

7 6

FOAM FOR ALCOHOLS

0031-0150

Special Firefighting Procedures

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION (SEE "DECOMPOSITION FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. PRODUCTS POSSIBLE"). HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREAS-ING RISK OF BURNS/INJURIES. WATER MAY BE INEFFECTIVE IN FIREFIGHTING DUE TO LOW FLASH POINT. USE WATER SPRAY/FOG FOR COOLING. EVEN IF MATERIAL IS WATER SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

TV.	Healt	h Hazards			. * . * . * . * . * . * . * . * . * . *	PPLEMENT G on page 6	
Summary of Acute Hazards	MODERATE HEALTH HAZARD - SEE BELOV	V FOR ROUTE-	SPECIFIC	DETAILS.			
ROUTE OF EX	POSURE SIGNS A	ND SYMPTOMS	3			Primary Route(s)	
Inhalation	PROLONGED OVEREXPOSURE MAY CAUSE CAND INTOXICATION.	OUGHING, SHO	RTNESS	OF BREAT	H, DIZZINESS	X	
Eye Contact	MAY CAUSE SEVERE EYE IRRITATION.					X	
Skin Absorption	NO SIGNIFICANT SIGNS OR SYMPTOMS IN EXPECTED TO OCCUR AS A RESULT OF S				CT ARE		
Skin Irritation	NO SIGNIFICANT SIGNS OR SYMPTOMS INT ARE EXPECTED TO OCCUR AS A RESULT O			ERSE HEA	LTH HAZARD		
Ingestion	THIS MATERIAL MAY BE A SLIGHT HEALTH HAZARD IF INGESTED IN LARGE QUANTITIES.						
CHRONIC OVEREXPOSURE CAN BE IRRITATING TO MUCOSAL MEMBRANES. SEE Summary of Supplemental Sheet for additional Chronic Health Hazard Information. Chronic Hazards and Special Health Effects This MATERIAL OR ITS EMISSIONS MAY AFFECT MUCOUS TISSUE AND/OR AGGRAVATE							
V.	Protective Equipment and C	ther Conf	rol N	leasur	es		
Respiratory	IF EXPOSURE EXCEEDS THE PEL/TLV, USE NIOSH/MSHA APPROVED RESPIRATORY PRO- atory tection equipment as specified in the NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.						
Eye	EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.						
Skin	NOT NORMALLY CONSIDERED A SKIN HAZARD.WHERE USE CAN RESULT IN SKIN CONTACT, PRACTICE GOOD PERSONAL HYGIENE. WASH HANDS AND OTHER EXPOSED AREAS WITH MILD SOAP AND WATER BEFORE EATING, DRINKING, SMOKING AND WHEN LEAVING WORK.						
Engineering Controls	NO SPECIAL VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S) BEYOND THAT NEEDED FOR NORMAL COMFORT CONTROL.						
Other Hygienic	EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE COMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.						
Work Practices	ices use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water.						
VI.	Occupational	Exposure	Lim	its			
Substance		Source	Date	Type	Value/Units	Time	
ISOPROPYL			1992	TWA STEL TWA STEL	400 PPM 500 PPM 400 PPM 500 PPM	8 HRS 15 MIN 8 HRS 15 MIN	



VII.	Emergency and First Aid
inhalation	IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY, GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION, PROMPT ACTION IS ESSENTIAL.
Eye Contact	IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.
Skin Contact	REMOVE CONTAMINATED CLOTHING AS NEEDED. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST.
ingestion	IF LARGE QUANTITY SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.
Emergency	IF PAIN, BLINKING, TEARS, OR REDNESS CONTINUE, PATIENT SHOULD CONTACT OPTHALMOLOGIST.
Medical Treatment Procedures	TREAT SYMPTOMATICALLY.
VIII.	Spill and Disposal
Precautions If Material Is Spilled or Released	EXTREMELY FLAMMABLE LIQUID. RELEASE CAUSES IMMEDIATE FIRE/EXPLOSION HAZARD. LIQUIDS/VAPORS MAY IGNITE. EVACUATE/LIMIT ACCESS. EQUIP RESPONDERS WITH PROPER PROTECTION. EXTINGUISH ALL IGNITION SOURCES. STOP RELEASE. PREVENT FLOW TO SEWERS/PUBLIC WATERS. RESTRICT WATER USE FOR CLEANUP.NOTIFY FIRE/ENVIRONMENTAL AUTHORITIES. IMPOUND/RECOVER LARGE LAND SPILL. BLANKET WITH FIREFIGHTING FOAM. SOAK UP SMALL SPILL WITH INERT SOLIDS. USE SUITABLE DISPOSAL CONTAINERS. ON WATER, MATERIAL IS SOLUBLE AND MAY FLOAT OR SINK. MAY BIODEGRADE. CONTAIN AND MINIMIZE DISPERSION; COLLECT. DISPERSE RESIDUE. REPORT PER REGULATORY REQUIREMENTS.
Vaste Disposal Methods	CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS IN SYSTEMS COMPATIBLE WITH WATER SOLUBLE WASTES. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.
ix.	Components (This may not be a complete)
omponent N	ame CAS No. Carcinogen## Composition amount (Wt.) (See Qualification on Page
	ALCOHOL 67-63-0 N/AP AP 99 PERCENT

Compositions given are typical values, not specifications.

##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other

SEQ:

Х.		Physical and (Chemical Data				
Boiling Poi	nt 180°F	Viscosity Units, Temp. (M N/DA	lethod)	Dry Point N/DA			
Freezing Po	oint	Vapor Pressure		Volatile Characteristi	cs		
АР	-127°F	(MM HG AT 20°C)	AP 3 3	APPRECIABLE			
Specific Gr AP 0.78	ravity (H, O = 1 at 39.2°F) 20°C/ 20°C	Vapor Sp. Gr. (Air = 1.0 at AP 2.1	t 60° - 90 °F) Solubility COMPLE	* T			
Hazardous I	Polymerization	Other Chemical Reactivity	1	Stability			
NOT EXPEC	TED TO OCCUR	N/P		STABLE			
Other Physi and Chemic	ical THE ODOR	THRESHOLD FOR ISOPROF	PYL ALCOHOL IS		·		
Appearance and Odor		OLORLESS LIQUID WITH ALOGOUS TO RUBBING ALC					
Conditions to Avoid	нідн тем	IPERATURES; STRONG OXI	DIZING CONDITIONS				
Materials to Avoid		DXIDIZERS, OPEN FLAMES/ ITROFORM, OLEUM	SPARKS, ALUMINUM				
Hazardous Decomposit Products		E COMBUSTION MAY YIELD	CARBON MONOXIDE	AND OTHER TOXIC GASES.			
XI.			Precautions				
Handling, Storage and Deconta- mination Procedures	Storage CONTAINERS WITH CARE BECAUSE OF FLAMMABLE VAPOR RESIDUE. MATERIAL MAY and attack some forms of plastic, aluminum, rubber and coatings.						
Pi oceda os	ANCE OR REPAIR. REMO	WASH AND PURGE SYSTE OVE ALL IGNITION SOURCE DEFICIENCIES. USE ADEC PRECAUTIONS PERTAINING	ES. CHECK ATMOSPHE QUATE PERSONAL PR	RE FOR EXPLO- OTECTIVE			
General Comments							
		TION PRESENTED AND CONG		EIN ARE FROM			
	ote Qualification		AP = Approximately UK = Unknown	N/P = No Applicable Information N/AP = Not Applicable	Found		
		GT = Greater Than	TR = Trace	N/DA = No Data Available			
The inform	ation in this MSDS was obtai	Disclaimer of the disclaimer of the disclaimer of the disclaim	ieve are reliable HOWEN	/ER, THE INFORMATION IS PROVIDE	:D		

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

Page 4 of 6

Rev No: 0 6

Issue No: 0 1

Print Date: 01/26/93



MSDS No HCR000125 Rev. Date 11/03/92

XII.

Regulatory Information

SEE SUPPLEMENT BEGINNING ON PAGE 6

SUPERFUND AMENDMENTS AND REAUTHORIAZATION ACT OF 1986 (SARA), TITLE III
SECTION 311/312 HAZARD CATEGORIES
IMMEDIATE (ACUTE) HEALTH HAZARD FIRE HAZARD

IMMEDIATE (ACCITE) REALTH HAZARD FIRE HAZA

SECTION 313

NO CHEMICALS IN THIS PRODUCT EXCEED THE DE MINIMUS REPORTING LEVEL ESTABLISHED BY SARA TITLE III, SECTION 313 AND 40 CFR 372.

TOXIC SUBSTANCES CONTROL ACT (TSCA)

ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA) NO CHEMICALS IN THIS PRODUCT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF CERCLA.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - PROPOSITION 65
BASED ON INFORMATION CURRENTLY AVAILABLE, THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY CHEMICALS
CURRENTLY LISTED AS CARCINOGENS OR REPRODUCTIVE TOXINS UNDER CALIFORNIA PROPOSITION 65 AT LEVELS
WHICH WOULD BE SUBJECT TO THE PROPOSITION. IF YOU REFORMULATE OR FURTHER PROCESS THIS PRODUCT,
YOU SHOULD FURTHER EVALUATE THIS PRODUCT BASED UPON SUCH REFORMULATION OR PROCESSING, AS WELL AS
UPON ITS FINAL COMPOSITION AND USE.



ISOPROPYL ALCOHOL (99%)

MSDS - No. HCR000125 Rev. Date 11/03/92

ONLY

XIII.

Label Information

Manufacturer:

ARCO CHEMICAL COMPANY 3801 WEST CHESTER PIKE NEWTOWN SQUARE, PA. 19073 Telephone Numbers EMERGENCY

800/424-9300 CHEMTREC 215/353-8300 ARCO CHEM

CUSTOMER SERVICE 800/321-7000 INFO

Use Statement:

FOR INDUSTRIAL USE ONLY

KEEP OUT OF REACH OF CHILDREN

Signal Word:

DANGER

Physical Hazards:

EXTREMELY FLAMMABLE

Health Hazards:

INHALATION HAZARD INGESTION HAZARD

SEVERE EYE IRRITANT

Precautionary

DO NOT TASTE/SWALLOW.

Measures:

DO NOT STORE IN ALUMINUM CONTAINERS.
DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

KEEP CONTAINER CLOSED WHEN NOT IN USE.

DO NOT STORE NEAR COMBUSTIBLE MATERIALS. AVOID CONTACT WITH EYES.

AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.

USE WITH ADEQUATE VENTILATION.

PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.

DOT Information:

UN/NA ID Number- UN 1219

Hazard Class-Proper Shipping3 (FLAMMABLE LIQUID)

ISOPROPANOL Component Name

CAS Number ISOPROPYL ALCOHOL 67-63-0

Instructions:

DRY CHEMICAL

WATER FOG

In case of fire, use-

CO2

WATERSPRAY

First Aid -Inhalation IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE

OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL

ATTENTION. PROMPT ACTION IS ESSENTIAL.

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 -Eye Contact OBTAIN EMERGENCY MEDICAL ATTENTION. RETRACT EYELIDS OFTEN. MINUTES.

-Skin Contact

REMOVE CONTAMINATED CLOTHING AS NEEDED. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES, IF STICKY, USE WATER-

LESS CLEANER FIRST.

IF LARGE QUANTITY SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM -Ingestion

COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS

EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

In case of spill.

EXTREMELY FLAMMABLE LIQUID. RELEASE CAUSES IMMEDIATE FIRE/EXPLOSION EXTINGUISH ALL IGNITION SOURCES. IMPOUND/RECOVER LARGE LAND HAZARD. SPILL; SOAK UP SMALL SPILL. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE

DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

0031-0155

Protective Equipment:

-Respiratory USE NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR AS

APPROPRIATE.

- Eve BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD.

-Skin NO SPECIAL CLOTHING NORMALLY REQUIRED. WHERE USE CAN RESULT IN SKIN

CONTACT, WASH THOROUGHLY BEFORE EATING, DRINKING, SMOKING, OR LEAVING WORK.

Date: 10/11/88 Date: 04/15/85

ISOPROPYL ALCOHOL (99%)

MSDS No. HCR000125 Rev. Date 11/03/92

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CHRONIC HEALTH HAZARDS-SECTION II AND IV

ONE OF THE COMPONENTS OF THIS PRODUCT (ISOPROPYL ALCOHOL) HAS BEEN REPORTED IN ONE STUDY TO BE FETOTOXIC AT LEVELS OF 2.5% IN DRINKING WATER. NO TERATOGENIC EFFECTS WERE, OR HAVE BEEN, REPORTED. THERE ARE NO REPORTS OF ADVERSE REPRODUCTIVE EFFECTS IN HUMANS EXPOSED TO THIS CHEMICAL.

0031-0156

SOPROPYL	ALCOHOL	(99%)	US NO. HONOUUTZU
XIV.		Supplement Continued	

Date Printed--> 5/14/90 Material Safety Data Sheet For Page Product-->53314ND 460# DRM Monoethanolamine MSDS#-->TEX MEA Emergency Telephone--> (409)722-8381 nufacturers Name & Address--> Texaco Chemical Company -0R-4800 Fournace Place For Chemical Emergency -PD Box 430 Exposure, or Accident Call CHEMIREC - Day or Night Bellaire, Texas (800)424-9300 77401-0000 Section I - Product Identification Chemical Name---->Alkanolamine Product/Trade Name-->75090 Monoethamine, ME, Chemical Family--->Alkanolamina Synonyms---->75090 Monoethanolamine, CAS Registry #--->141-43-5 101-13t Mongethanolamina No data ligted Manufacturers Product Code--> 75090 MSD Effective Date--> 1/18/88 F E Bently Coordinator MSDS#--> 75090 For Further Information Call-/> (000) -0000 Hazard Designations--> -HMIS--NFPA-====± ----0 0 0 <u>0</u>2 0 = Minimal Health--> Flammability--> 1 1 = Slight 2 = Moderate Reactivity--> Protective Equipment Or 3 = Serious Specific Hazard /-> 4 = Severe Section II - Hazardous Ingredients/Identity Information Ingredients-Not Specifications Percent TLV (Units) 100. 0Ø Etyanol, 2-amigo-3 ppm TWA 3 ppm PEL DSHA QAS # 141-43-/5 6 ppm STEL ACGIH **Mazardous acdording** to **DSHA 1910.120**0 or one or more state Right-To-Know lists Section III ≠ Physical/C∦emical Characteristics Boiling Point--> 339 F Not listed C Freezing Poi**nt--**> **M**ot listed F Not listed C Not listed F Not listed C Melting Point Vapor Pressure--> 0. 2 mm Hg por Density(Air=1)-->2.1

Calubilibu Ta Habam 2 --1

Solubility In Water--> soluble

Sp Gravity(Water=1)--> 1.02 % Volatile By Volume-->Nil

```
Date Printed--> 5/14/90 Material Safety Data Sheet For Page
Product-->53314ND 460# DRM Monoethanolamine PB MSDS#-->TEX MEA
  paporation Rate--> (
                                           =1) 1
   of Undiluted Product-->11.8
 State--> Gas- Solid- Liquid-X Viscosity--> 24.1 cP @ 20C Product Density--> No data listed Other Information--> No data listed Molecular Weight--> No data listed
  Appearance and Odor--> Clear liquid, mild ammoniacal odor
  Section IV - Fire & Explosion Hazard Data
 Flash Point(Method Used)-->
                              204 F(PMCC)
 Flammable Limits-->Lower--5
                     Upper--17
 Fire Extinguishing Media-->
                     According to the National Fire Protective
                     Association/Guide, use water spray, dry chemical, foam, or
                     carbon dioxide.
 Special Fire Fighting Procedures-->
                     Water or foam may cause frothing. Use water
                     to cool fire-exposed containers. If a leak or spill has not
                     ignited, use water spray to disperse the vapors and to
                     provide/protection for persons attempting to stop the leak.
 Unusual Fire & Explosion Hazards-->
                     None
 Autoignition Temp--> / N.D. F
                                                     N.D.C
  Section V - Health Hazard Data
 Threshold Limit Value-->
                     3 ppm averaged over an 8-hour daily exposure (ACGIH, 1987-88)
                     3/ppm PEL (OSHA)
 Health Hazards-->
                     ŕ
                     Acute
                     Eyes--Believed to be extremely irritating with possible
                      permanent eye injury.
                     Skin--Believed to be corrosive; expected to cause severe
                      skin damage with burns and blistering.
                     Respiratory System--May cause irritation of upper
                      respiratory tract.
                     Chronic--See Section X - Additional Information
 Emergency & First Aid Procedures-->
                    Eyes—#flush thoroughly with water for at least 15 minutes.
                      Get immediate medical attention.
                    Skin-If drenched, remove contaminated clothing under
                     safety shower and flood exposed areas with water. Get
                  immediate medical attention. Wash clothing before reuse.
```

Ingestion--Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention. Inhalation--Should symptoms noted under Health Hazards occur, remove to fresh air. If not breathing, apply

artificial respiration.

No data listed Sensitization Properties Skin -- Unknown Respiratory -- Unknown Medical Conditions Generally Aggravated By Exposure--> No data lsited Toxicological Data--> Median Lethal Dose (LD50 LC50) (Species) Oral - Believed to be 1-2 g/kg (rat); slightly toxic Inhalation - N. D./ Other - N.D.

Dermal - 1 g/kg Arabbit); slightly toxic Irritation Index, Estimation of Irritation (Species) Skin - Believed to be 6.6-8.0/8.0 (rabbit); corrosive Eyes--Believed to be 80-110/110 (rabbit); extremely intitating Symptoms of Exposure -- See Health Hazards Aquatic tox*city rating - TLM 96 hour = 100-1000 ppm;

Section VI - Reactivity Data

Stability--> Stable-X Upstable-Conditions to Avoid-->

No data/listed

practically non-toxic.

<u>Incompatability (Materials to Avoid)-+></u>

Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer

causing nitrosamines could be formed.

Hazardous Combustion Or Decomposition Products-->

Amminia, carbon/monoxide, and carbon dioxide, may be formed on hurning in limited air supply.

Hazardous Polymerization--> May Occur- Will Not Occur-X

Conditions to Avoig-->

No data listed

Section VII - Spfll, Leak, and Waste Disposal Procedures

Spill Control Met#ods-->

Avoid all/personal contact. /Contain spill if possible. Wipe up of absorb on suitable material and shovel up.

Waste Disposal Methods-->

Under RORA, it is the responsibility of the user of products to determine, at the time of disposal, whether product meets RCRA cfiteria for hazardous waste. This is because product uses, Atransformations, mixture, processes, etc. may render the resulting material hazardous.

Wast Classification--Product has been evaluated for RCRA characteristics and does not meet criteria of a hazardous waste if discarded in its purchased form.

Section VIII - Special Protection Information

Respiratory Protection-->

Supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces.

4C

Product-->53314ND 460# DRM Monoethanolamine

MSDS#-->TEX MEA

ntilation-->

Local exhaust ventilation recommended.

Personal Protection-->

Eyes--Chemical type goggles with face shield must be worn. Do not wear contact lenses.

Skin--When handling large quantities subject to splashes and spills, impervious suits, gloves and rubber boots must be worn.

Work Practices/Hugiene-->

DANGER! CAUSES SEVERE EYE AND SKIN BURNS

MAY CAUSE BLINDNESS HARMFUL IF SWALLOWED

Do not get in eyes, on skin or clothing

Avoid breathing vapor or mist

Keep container closed

Use only in well-ventilated locations

Wash thoroughly after handling

Section IX - Special Precautions

Handling & Storage-->

Minimum ffasible handling temperatures should be maintained. Periods of exposure to high temperatures should be minimized Water contamination should be avoided.

Other Precautions-->

CAUTION! Misuse of empty containers can be hazardous. Empty £ontainers can be hazardous if used to store toxic, flammable or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes fom fesidues. Do not pressurize or expose to open flame or #eat. Keep container closed and drum bungs in place.

Precautionary Label-->

75090

MONOETHANOLAMINE MEA

DANGER! CAUSES SEVERE EYE AND SKIN BURNS

MAY CAUSE BLINDNESS HARMFUL IF SWALLOWED

Do not get in eyes, on skin or clothing

Avoid breathing vapor or mist

Keep container closed

Use only in well-ventilated locations

Wash thor bughly after handling

In case ∮f contact, immediately flush eyes and skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes

Call & doctor

If swallowed, DO NOT induce vomiting - Call a doctor CORROSIVE MATERIAL

Section X - Additional Information

Additional Information-->

State of Michigan Critical Materials Act (Revised 1987) No critical materials present.

Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancercausing nitrosamines could be formed.

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Page
MSDS#-->TEX MEA
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ection XI - Regulations and Transportation Proper Ship Name-->Monoethanolamine Hazard Class--> ₹Racking Group--> III 8 Special Prov--> UN/NA #--> UN2491 Hazard Name--> Corrosive Material Label/Placard--> Corrosive EPA--> RQ--> N Pounds Emergency Response Guide #--> 60 Cargo Class #--> 08 Messages--> Freight Class--> Monoethanolamine MW--40000 LTL--60 Title III Information--> TPQ--> /00 Pounds N SARA Substance--> Amines Generic Class--> C10 SARA Tier I/II--> Acute--X Chronic--X Fire--Section XII - State Right-to/Know Laws Rhode Island Hazardous Substance RTK Law--> Applies As Follows Toxic Substance-->Mongethanolaming Hazard Warnings--> / T-AQGIH * F-NFRA * Connecticut Public Act #82-251 Effettive 7/83-->Applies As Follows Toxic Substance-->Ethanolamine Massachusetts Hazardous Substance RTK Law -> Applies As Follows 2-OSHA 4-ACGIH 5-NFPA49 6-NFPA325M Section XIII - Distributor John R Hess/& Sons, Inc. Rhode Island Division PD Box 2096 John R Hess & Sons, Inc. 400 Station Street Edgewood Station Providence, Rhode Island Cranston, Rhode Island 02905-0096 02910-0000 (800) 556-2850 (401)785-9300 or * Indicates a Registered name or Trademark of the Manufacturer. Consult the Manufacturer for further information. nufacturer's Statement--> NOTE--No representation is made as to the accuracy of the information herein. N.D. - Not Determined N.A. - Not Applicable < - Less Than > - Greater Than

CAUTION--Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion, or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

Health Emergency Telephone # (914) 831-3400 (Ext 204)

For additional information concerning --Fuels/Lubricants/Antifreezes Call (914) \$31-3400 (Ext 204) Chemicals/Additives Call (409)/722-8381 Transportation Spills Call CHEM#REC (800) 424-9300

To determine applicability or effect of any law or regulation with respect to the product, users should consult his legal advisor or appropriate government agency. does not whderatke to furnish advise on such matters.

The info@mation contained herein is believed to be accurate. It is provided independently of any sale of the product as part/of Texaco's/Product Safety Program. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchintability or fitness for a particular purpose is made with respect to the product or the information contained hereIn. Data Sheets are available for all Texaco products. You are urged to obtain data sheets for all Texaco products you buy, process, use or distribute and you are encouraged an requested to advise those who may come in contact with such products of the information contained herein.

MATERIAL SAFETY DATA SHEET

ALBRICHT & WILSON Americas

Wotont

Date-Issued: 12/05/1995

MSDS Ref. No: PSMSD-291

Date-Revised: 08/22/1997

Revision No: 1

Amgard TBEP

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Amgard TBEP

GENERAL USE: Industrial Chemical Intermediate

PRODUCT CODE: 291

PRODUCT FORMULATION NAME: Ethanol, 2-Butoxy-, Phosphate (3:1)

CHEMICAL FAMILY: Trialkyl Phosphates

GENERIC NAME: Tributoxy Ethyl Phosphate, TBEP

MANUFACTURER

Albright & Wilson Americas Inc. Industrial Chemicals Division P.O. Box 4439 Glen Allen, VA 23058-4439

Contact: Product Stewardship Department

Product Stewardship: (804) 968-6496

Transportation: (804) 968-6418

Customer Service: (804) 968-6300

Albright & Wilson Americas Limited - Canada

Industrial Chemicals Division

2070 Hadwen Road

Mississauga Ontario L5K 2C9

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC (800) 424-9300

Canutec (613) 996-6666

Emergency Phone (803) 554-1229

COMMENTS: To the best of our knowledge, this Material Safety Data Sheet conforms to the requirements of US OSHA 29 CFR 1910.1200, 91/155/EEC and Canadian Hazardous Products Act.

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name

Ethanol, 2-butoxy-, phosphate

COMMENTS:

<u>Wt.%</u> <u>CAS#EINECS #</u> 78-51-3 201-122-9

Not classified as DANGEROUS, no EU R risk phrase required. Product composition ranges shown are typical values for health, safety and environmental use and are not intended as specifications.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Clear and colorless organic liquid with characteristic odor.

IMMEDIATE CONCERNS: Poses little or no immediate concerns.

POTENTIAL HEALTH EFFECTS

EYES: Not expected to cause significant irritation to the eyes.

SKIN: Not expected to cause significant irritation to the skin.

INGESTION: Not expected to cause significant irritation of the digestive tract.

INHALATION: Not expected to cause significant irritation of the lungs, upper respiratory tract or nose.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Redness and possible itching and/or tearing of the eyes.

SKIN: Possible redness and/or itching of the skin.

INGESTION: Possible nausea and/or vomiting.

INHALATION: Possible coughing, burning, tightness of chest and/or shortness of breath.

ACUTE TOXICITY:

Not expected to cause significant adverse effects if absorbed through the skin.

Not expected to cause significant adverse effects if ingested.

Not expected to cause significant adverse effects if mist or vapor is inhaled.

CARCINOGENICITY:

Not Listed by NTP

Not listed by IARC

Not listed by OSHA

MUTAGENICITY:

This product was tested to be negative in a laboratory test tube study.

REPRODUCTIVE TOXICTY

REPRODUCTIVE EFFECTS: Not Available

TERATOGENIC EFFECTS: Not Available

MEDICAL CONDITIONS AGGRAVATED: May aggravate anemia.

TARGET ORGAN STATEMENT: May cause liver, nervous system, stomach and skin damage based on animal data.

SENSITIZATION: This material may cause sensitization of the skin.

COMMENTS: For detailed toxicological information see Section 11.

4. FIRST AID MEASURES

EYES: Wash eyes with clean flowing water for two to three minutes. Remove any contact lenses and continue flushing for 15 minutes. If irritation occurs or persists, get medical attention.

SKIN: Remove contaminated clothing including shoes and wash skin with plenty of soap and water. If irritation occurs, seek medical advice. Wash contaminated clothing and shoes before reuse.

INGESTION: Wash out mouth with water and keep at rest. Seek medical attention.

INHALATION: Remove from further exposure. Keep warm and at rest. If cough or other symptoms develop, seek medical attention.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 224°C (435°F)ASTM D92

FLAMMABLE LIMITS: Not Available

AUTOIGNITION TEMPERATURE: Not Available

FLAMMABLE CLASS: Nonflammable

FLAME PROPAGATION OR BURNING RATE OF SOLIDS: Not Applicable

GENERAL HAZARD: Evacuate personnel downwind of fire to avoid inhalation of irritating and/or harmful fumes and smoke.

EXTINGUISHING MEDIA: Chemical type foam, CO2 (Carbon Dioxide), Dry Chemical, Water Fog

HAZARDOUS COMBUSTION PRODUCTS: Oxides of both carbon and phosphorus

FIRE FIGHTING PROCEDURES: For small containers of organic substances, it should be considered if there will be less damage by allowing the material to burn to exhaustion rather than fighting the fire and risk causing environmental contamination and other problems.

FIRE FIGHTING EQUIPMENT: Respiratory and eye protection are required for fire

fighting personnel. Full protective equipment (Bunker Gear) and self contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of a SCBA may not be required.

SENSITIVE TO STATIC DISCHARGE: Not Available

SENSITIVITY TO IMPACT: Not Available

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL:

Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material.

Wearing the appropriate personal protective equipment designated in Section 8, move the leaking container to a containment area or rotate the container so that the opening is above the liquid level.

Absorb on diatomaceous earth or equivalent inert material. Shovel up and dispose of at an appropriate waste disposal facility according to current applicable laws and regulations, and product characteristics at time of disposal.

LARGE SPILL:

Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material.

Wearing the appropriate personal protective equipment designated in Section 8, close or cap valves and/or block or plug hole in leaking container and transfer to another container.

Contain material as described above and call the local fire or police department for immediate emergency assistance.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Use appropriate containment to avoid runoff or release to sewer or waterways.

LAND SPILL: Use appropriate containment to avoid runoff or release to ground.

GENERAL PROCEDURES: Remove containers of strong oxidizers from release area.

RELEASE NOTES: If spill could potentially enter any waterway, including intermittent dry creeks, contact the local authorities. If in the U.S., contact the US COAST GUARD NATIONAL RESPONSE CENTER toll free number 800-424-8802.

In case of accident or road spill notify: CHEMTREC in USA at 800-424-9300 CANUTEC in Canada at 613-996-6666 CHEMTREC, other countries, at (International code)+1 202 483 7616

COMMENTS:

See Section 13 for disposal information and Section 15 for regulatory requirements. Large and small spills may have a broad definition depending on the user's handling system. Therefore, the spill category must be defined at the point of release by technically qualified personnel.

7. HANDLING AND STORAGE

HANDLING:

Use appropriate personal protective equipment as specified in Section 8. Handle in a well ventilated area.

Handle and use in a manner consistent with good industrial/manufacturing techniques and practices.

STORAGE:

Store in unopened containers under cool and dry conditions.

Do not store with, or close to oxidizers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Good ventilation should be sufficient to control airborne levels of material.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields or goggles when handling this material.

SKIN: To prevent any contact, wear impervious protective clothing such as neoprene or butyl rubber gloves, apron, boots or whole bodysuit, as appropriate.

RESPIRATORY: Always wear NIOSH approved respiratory protective equipment when there may be potential for airborne exposure.

WORK HYGIENIC PRACTICES: Facilities storing or using this material should be equipped with an eyewash facility and a safety shower.

Good personal hygiene practices should always be followed.

COMMENTS: This product contains no known OSHA hazardous ingredients per 29 CFR 1910.1200.

No PEL's, TLV's or OEL's for this product or it's ingredients are listed in the current issue of ACGIH's Guide to Occupational Exposure Values nor have they been determined by the manufacturer.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Characteristic

L Less

APPEARANCE: Clear

COLOR: Colorless

pH: Not Applicable

VAPOR PRESSURE: <0.1 mmHg at 20°C (68°F)

VAPOR DENSITY: Not Available

BOILING POINT: 222°C (435°F)@ 4 mmHg

FREEZING POINT: Not Available

MELTING POINT: Not Available

SOLUBILITY IN WATER: Negligible

EVAPORATION RATE: Not Available

DENSITY: 1.017 g/cc at 20°C (68°F)

SPECIFIC GRAVITY: 1.017 @ 20°C/4°C

VISCOSITY #1: <20CS at 40°C (104°F)

VISCOSITY #2: <99Saybolt Universal Seconds at 38°C (100°F)

MOLECULAR FORMULA: C₁₈H₃₉O₇P

MOLECULAR WEIGHT: 398.5 g/gmol

COEFF. OIL/WATER: Not Available

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Heat.

STABILITY: The product is stable under normal ambient conditions of temperature and pressure.

POLYMERIZATION: Will not occur

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of both phosphorus and carbon and acids of phosphorus.

INCOMPATIBLE MATERIALS: Strong Oxidizers

11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD_{so}: 5000 mg/kg (rabbit)

ORAL LD₅₀: 10700 mg/kg (rat)

INHALATION LC_{so}: 21 mg/l (1 hour)

EYE EFFECTS: This material is not expected to cause significant irritation to the eyes.

SKIN EFFECTS: This material is not expected to cause significant irritation to the skin.

SENSITIZATION: This material is a Grade I - Weak Skin Sensitizer.

TARGET ORGANS: Liver

Nervous System Stomach Skin

CARCINOGENICITY:

Listed by IARC - No

Listed by NTP - No

Listed by OSHA - No

MUTAGENICITY: Negative in the Ames Test.

REPRODUCTIVE EFFECTS: Not Available

TERATOGENIC EFFECTS: Not Available

GENERAL COMMENTS: Reported to be absorbed through the skin; neurotoxicity and liver toxicity may occur.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: May cause adverse environmental impact if material reaches waterways.

ECOTOXICOLOGICAL INFORMATION: Not Available

DISTRIBUTION: Not Available

CHEMICAL FATE INFORMATION: Not Available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of waste at an appropriate waste disposal facility according to current applicable laws and regulations.

FOR LARGE SPILLS: Contain material and call local authorities for emergency assistance. In consultation with the appropriate authorities, determine the disposal method or contact Albright & Wilson Americas.

PRODUCT DISPOSAL: Dispose of at a supervised incineration facility or an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal.

EMPTY CONTAINER: Rinse drums with a suitable solvent and steam to remove vapors before disposal or reuse in accordance with applicable regulations.

GENERAL COMMENTS: Refer to Section 6, Accidental Release Measures for additional information.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not restricted by DOT

TECHNICAL NAME: Ethanol, 2-Butoxy-, Phosphate

LABEL: Use Product Identifier, "Trade Name", with technical name below.

CANADA TRANSPORT OF DANGEROUS GOODS

PROPER SHIPPING NAME: Not restricted

LABEL: Use Product Identifier, "Trade Name", with technical name below.

AIR (ICAO/IATA)

PROPER SHIPPING NAME: Not restricted

LABEL: Use Product Identifier, "Trade Name", with technical name below.

VESSEL (IMO/IMDG)

PROPER SHIPPING NAME: Not restricted

LABEL: Use Product Identifier, "Trade Name", with technical name below.

EUROPEAN TRANSPORTATION:

ADR/RID HAZARD CLASSIFICATION: Not Regulated

U.S. CUSTOMS HARMONIZATION NUMBER: 2919.00.50.50

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND

REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES:

FIRE: NO PRESSURE GENERATING: NO REACTIVITY: NO ACUTE: NO

CHRONIC: NO

313 REPORTABLE INGREDIENTS: Not Applicable

TITLE III NOTES: Not Applicable

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA RQ: Not Applicable

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All intentional ingredients are listed on the TSCA Inventory.

NATIONAL RESPONSE CENTER: U.S. Coast Guard National Center telephone # 1-800-424-8802

CANADA

WHMIS (WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM): This product is not WHMIS controlled.

CANADA INGREDIENT DISCLOSURE LIST: This product does contain ingredient(s) on the "Ingredient Disclosure List".

CANADIAN ENVIRONMENTAL PROTECTION ACT: All intentional ingredients are listed on the DSL (Domestic Substance List).

EUROPEAN COMMUNITY

EUROPEAN COMMUNITY REGULATORY: All intentional ingredients are listed on the European's EINECS Inventory.

MEXICO

This product is not classified according to Mexican Standard, Instruction No. 9, ANNEX 1.

STATE REGULATIONS

Not Available

STATES WITH SPECIAL REQUIREMENTS

2-ButoxyethanolMassachusetts:Contains material that is present on Massachusetts Substance List at >= 1% or 0.1% for carcinogens.

New Jersey: Contains material present on New Jersey Right to Know Hazardous Substance List at >=1% and 0.1% for carcinogens. Pennsylvania: Contains material present on Pennsylvania Hazardous Substance List present at >=1%.

Rhode Island: Contains material present on Rhode Island Hazardous Substance List at >=1% and 0.01% for carcinogens, mutagens and teratogens.

REGULATIONS

LOCAL REGULATIONS: Not Available

COMMENTS: This chemical product is not classified as "dangerous" for supply based on current available information. No EEC symbol, R risk or S safety phrase is required on the label.

16. OTHER INFORMATION

REASON FOR ISSUE: New format with additional information.

APPROVED BY: William T. Stewart TITLE: Product Stewardship Manager

INFORMATION CONTACT: Product Stewardship Analyst

REVISION SUMMARY

This MSDS revision number was reset to #1 and replaces the June 09, 1997 issue.

NFPA CODES

FIRE: 1 HEALTH: 1 REACTIVITY: 1

HMIS CODES

FIRE: 1 HEALTH: 1 REACTIVITY: 1 PROTECTION: H

MANUFACTURER SUPPLEMENTAL NOTES:

HAZARD WARNING! This product belongs to a chemical family that HAS BEEN TESTED in combination with Trimethylolpropane, Trimethylolpropane derived products or their corresponding Trimethylolpropane homologs for toxicity of the thermal decomposition products in the absence of flame. Products in this chemical family PRODUCED OBSERVABLE ADVERSE HEALTH EFFECTS in laboratory animals. There is a possibility that this thermal decomposition produces bicyclic phosphates and/or phosphites. Bicyclic phosphates and phosphites have acute neurotoxic properties and may cause convulsive seizures in laboratory test animals. Therefore, this product should not be used in conjunction with Trimethylolpropane or Trimethylolpropane derived products unless tested to determine their decomposition toxicity. Follow all precautionary measures outlined in this Material Safety Data Sheet and/or contact Albright & Wilson Americas.

DATA SOURCES:

Acute Oral LD50 (rat), Biosearch/Mobil 9113-71

Acute Dermal LD50 (rabbit), MCTR 204-77/Mobil M2041-77

Acute Inhalation LC50 (rat), MCTR 204-77/Mobil M2042-77

Acute Dermal Irritation (rabbit), Biosearch/Mobil M9111-71

Acute Eye Irritation (rabbit), Biosearch/Mobil M9112-71

Mutagenicity, Ames, Litton/MCTR 204-77/Mobil M2043-77

Product Health Hazard Review by Consultant Toxicologist, Dr. R. V. Blanke

MANUFACTURER DISCLAIMER: Information given herein is offered in good faith as

accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

ALBRIGHT & WILSON Americas

FAX

Date: OF Jan 1999

Number of pages including cover sheet: /

To: OIL CITEM LINCOLN, R.I.

ATTN: HEL.

Phone: (HOI) F22-2410

Fax phone: (401) F87-0752

CC:

From: S	TEVAN	- Mice	R
	-LBRIGHT	2 Wisson	- AMERIO
		·	
			
<u>:</u>	So W.	968-6	21
Phone:		7 00 -10	70 T
Fax obone	804-9	68-6573	

REMARKS:	Urgent 🛛	For your review	Reply ASAP	Please comment
ALBRIGHT	- 2 WILSON FITT	exicas		,
AMGARD	TBEP In	ODUCT CODE	927	
THE AB	ve Parover Con	manis 2-	BUTOXYETH	CHEMICAL AS
111-76	-2) withich is	A VOLAT	THE CREAM	c liveniese As
DEFINED.	By THE EPA	CLEAN A	hà Uct.	
THE %	Voci In	TBEP 1	5 < 1% aa	el typically
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			SWE P.S. E	MILLER ENGINEER

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Printed:-> 7/01/94 Material Safety Data Sheet MSDS#-->STPBTC2125N50 Page
Mfg MSDS #-->133027
                        Mfg MSDS EFFECTIVE Date--> 5/23/90
    Section 1 - Manufacturers Information
                                               EXHIBIT "B"-13
    Section 1 -Manufacturer & Froduct Identification
    Manufacturers Name & Address-->
                                                  Emergency(800)228-5635
                                           Chemtrec (800) 424-9300
    Stepan Company
                                 Medical
                                            -OR- For Chemical Emergency -
    Northfield, Il
                                                  Exposure, or Accident
                                                  Call CHEMTREC - Day or Night
                                                           (800)424-9300
                      40093-0000
    Chemical Name---->
                  Myristalkonium Chloride & Quaternium 14
   Product/Trade Name-->
                  BTC 2125M
                                               Wo womber
    Chemical Family---->
                  Quaternary
    Synonyms--
                  No data listed
    CAS Registry #---->
                  No data listed
                  No data listed
                  No data listed
   For Further Information Call-->(708)446-7500
   Hazard Designations-->
                                     -HMIS-
                                              -NEPA-
                                     .....
   Health-->
                                                     0 = Minimal
                                        2
                                                 2
                                                     1 = Slight
    Flammability-->
                                        0
    Reactivity-->
                                                     2 = Moderate
    Protective Equipment Or
                                                     3 = Serious
     Specific Hazard-->
                                                     4 = Severe
   Effective Date--> 5/23/90
   Manufacturers Product Code-->133027
                                               MSDS#-->133027
   Section 2 - Ingredients/Product Composition
   Section 2 -Ingredients/Composition
   Ingredients-Not Specifications Percent
                                                         TLV(Units)
                                 3.00%
   Ethyl Alcohol, Denatured
                                                         OSHA PEL 1000ppm
    CAS # 64-17-5
                                                         ACGIH TLV 1000ppm
   Section 3 - Physical Data
   Section 3 -Physical Data
   Boiling Point--> 212F
                                    100C
   Freezing Point-->Not ListedF Not Listed
   Melting Point-->Not ListedF Not ListedC /
   Vapor Pressure-->Estimated heavier than a
   Vapor Density(Air=1)-->Not determined or unknown
   Solubility In Water-->No data listed
   Specific Gravity (Water=1)-->No data listed
   Percent Volatile By Volume-->50%
   Evaporation Rate-->(Ethyl Ether = Estimated slower than
   Ph of Undiluted Product-->No data listed
   State-->Gas- Solid- Liquid-X
   Viscosity-->No data listed
   Product Density-->No data listed
```

Other Information-->Weight Per Gallon -- 8.1 pounds

Molecular Weight-->No data listed Appearance and Odor-->No data listed er for our reg cas to were the sor the sor the file out the sign pin may the the sign pin out the sign pin o

Section 4 - Fire and Explosion Data

Section 4 -Fire & Explosion Hazard Data Flash Point-->170 F, 77 C Pensky-Martens Closed Cup Flammable Limits-->

Lower--)4%

Upper-->19% Fire Extinguishing Media-->

Dry chemical, carbon dioxide, foam, or water fog. Class BC, ABC fire extinguisher.

Special Fire Fighting Procedures-->

Self-contained positive pressure breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.

None known!

Autoignition Temp-->Not listedF Not listedC

Section 5 - Reactivity Data

Section 5 -Reactivity Data Stability--> Stable-X Unstable-Conditions to Avoid-- λ^{i} No data listed Incompatability(Materials to Avoid)--> Strong oxidizing agents Hazardous Combustion Or Decomposition Products--> Nitrous oxides and ammoniacal vapors Hazardous Polymeri&ation-->May Occur- Will Not Occur-X Conditions to Avoid--> No data listed/

Section 6 - He≰lth Hazard Data

...

Section 6 -Hea∉th Hazard Data Threshold Limit Value--> Refer to Section II - Ingredients Health Hazards-->

Eyes--Contact with eyes is painful and irritating.

Skin--Protonged or repeated contact with skin causes irritation.

Inhalation--Mist caused by manufacturing operations irritates nasal passages. Alcohol portion, which can be inhaled or absorbed, must be controlled below TLV.Prolonged inhatation of variors causes nausea, loss of motor skills, and disorientatión.

Ingestion--If swittowed, consult a physician immediately. If any symptoms persist, consult a physician.

Signs & Symptone Of Exposure-->

Unnecessary exposure to this product or any chemical should be avoided.

Medical Conditions Generally Aggravated By Exposure--> Chronic effects and medical conditions aggravated by overexposure to this product have not been established.

Section 7 - First Aid Procedures

Section 7 -First Aid Procedures
Eyes--Flush eyes immediately with plenty of water for at
least 15 minutes.
Skin--Wash off skin with water. Remove contaminated
clothing and clean before reuse.
Inhalation--If vapors or mist cause irritation or distress,
go to fresh air. Give oxygen or apply artificial
respiration, if needed.
Ingestion--If swallowed, consult a physician immediately
Carcinogen--This product is not considered a carcinogen
by OSHA, NTP, or IARC.

Section 8 - Spills and Disposal Information

Section 8 -Spill & Disposal Procedures Spill Control Methods-->

Contain all spills and leaks to prevent discharge into the environment.

Ventilate area.

Small Spills--Soak up with absorbant, shovel into waste container, flush area with water.

Large Spills--Recover liquid for reprocessing or disposal. Waste Disposal Methods-->

Recover material or dispose (incineration is perferred) in accordance with all applicable federal, state, and local regulations. Material collected with absorbant may be disposed in a permitted landfill in accordance with federal, state, and local regulations. Empty container may retain vapor or product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

Section 9 - Handling & Storage Data(Personel Protection)

Section 9 -Handling & Storage Precautions
Respiratory Protection-->
If vapors are present, use NIOSH or MSHA approved
respirator for organic vapors, air-line respirator, or a
self-contained breathing apparatus.
Ventilation-->

Use adequate ventilation to keep hazardous ingredients below their TLV.

Personal Protection-->

Eye Protection--Wear full face shield or goggles when hanlding.

Protective GLoves--Use impervious gloves.

Other Protective Equipment—Wear protective clothing to prevent repeated or prolonged contact.

Eye wash station and safety shower should be near work area.

Section 10 - Additional Information

Section 10-Additional Information

Section 15-Mfscellaneous/Information Work Practices & Hygiene-->
No data Listed
Handling & Storage-->
Avoid open fire or flame.

Section 20 - Distribytor

Joyn R Hess & Company,Inc 400 Station Street *O Box 3615 Cranston, Rhode Island 02910-0000

(401)785-9300

UNION CARBIDE CHEMICALS AND PLASTICS COMPANY INC Industrial Chemicals Division

MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE: 08/09/89

Union Carbide Chemicals and Plastics urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material of the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers, and other users of the product of this information.

I. IDENTIFICATION

PRODUCT NAME: TRIETHANOLAMINE, COMMERCIAL GRADE

CHEMICAL NAME:

Triethanolamine mixture

CHEMICAL FAMILY: Alkanolamines

FORMULA: Not Applicable

MOLECULAR WEIGHT: Not Applicable

SYNONYMS: Triethanolamine 85%; TEA 85

CAS # and Not Applicable

NAME: Not Applicable (mixture)

II. PHYSICAL DATA (Determined on typical material)

Approx. 16 C (Approx. 61 F)

BOILING POINT, 760 mm Hg: >250C (>482F) (I SPECIFIC GRAVITY(H2O =1): 1.126 at 20/20 C >250C (>482F) (Decomposes)

FREEZING POINT:

VAPOR PRESSURE AT 20'C:

VAPOR DENSITY (air = 1): Approx. 4.8

EVAPORATION RATE

(Butyl Acetate = 1):

SOLUBILITY IN WATER by wt: 100% @ 20C

APPEARANCE AND ODOR: Water-white liquid; mildly ammoniacal odor.

<0.01

<0.01 mm Hg

Copyright 1985, 1989 Union Carbide Chemicals & Plastics Technology Corp. UNION CARBIDE is a Trademark of Union Carbide Corporation USA EMERGENCY PHONE NUMBER: 1-800-UCC-HELP (Number available at all times) ______

> UNION CARBIDE CHEMICALS AND PLASTICS COMPANY INC. Industrial Chemicals Division 39 Old Ridgebury Road, Danbury, CT. 06817-0001

> > 0031-0180

Wot chist

and local regulations. See Section IX.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type):

Y-contained breathing apparatus in high vapor concentrations.

PRODUCT NAME: TRIETHANOLAMINE, COMMERCIAL GRADE

VENTILATION:

. This product should be confined within covered equipment, in which case qeneral (mechanical) room ventilation is expected to be adequate. Special al ventilation is suggested at points where vapors can be expected to escape the workplace air.

PROTECTIVE GLOVES: PVC - coated or butyl

EYE PROTECTION: Monogoggles

OTHER PROTECTIVE EQUIPMENT: Eye bath, safety shower, and chemical apron

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

WARNING! Harmful if swallowed.

Causes eye and skin irritation.

Repeated exposure may/cause liver/and kidney damage.

Avoid contact with eyes, skin, and clothing.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

FOR INDUSTRY DSE ONLY

ER PRECAUTIONS:

DISPOSAL - Laboratory tests show that, at very low concentration (about 10 ppm), these ethanolamines can be degraded in a biological wastewater treatment system. It may be feasible to flush a small spill of ethanolamines to a sanitary sewer, with large amounts of water. However, a large spill might be detrimental to aquatic life. If spilled material cannot be collected, it may be possible to neutralize with dilute hydrochloric acid and then, landfill the resulting salt.

WARNING: Hot organic/chemical vapors or mists are susceptible to sudden spontaneous combustion when mixed with air. Ignition may occur at temperatures below those published in the literature as "autoignition" or "ignition" temperatures. Ignition temperatures decrease with increasing vapor volume and vapor/air contact/time, and are influenced by pressure changes.

Ignition may occar at typical elevated-temperature process conditions, especially in processes operating under vacuum/if subjected to sudden ingress of air, or outside process equipment operating under elevated pressure if sudden escape of vapors or mists to the atmosphere occurs.

Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained

X. REGULATORY INFORMATION

"STATUS ON SUBSTANCE LISTS: The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS". FEDERAL EPA Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are: *** None *** Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 311 and 312). [Components present in this product at a level which could require reporting under the statute are: [*** NONE *** Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present if this product at a level which could require recorting under the statute are: UPPER BOUND CAS NUMBER CONCENTRATION % CHEMICAL 111-42-2 15.0 Diethanolamine STATE RIGHT-TO-KNOW CALIFORNIA Proposition 65 This product does not contain materials which the State of California has found to cause, cander, birth defects or other reproductive harm. MASSACHUSETTS 105 CMR 670.000 Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: EXTRAORDINARILY HAZARDOUS SUBSTANCES (=> 0.0001%)UPPER BOUND CHEMICAL CAS NUMBER CONCENTRATION % *** NONE *** HAZARDOUS SUBSTANCES (=> 1%) UPPER BOUND CAS NUMBER CONCENTRATION % CHEMICAL 111-42-2 thanolamine 15.0 ethanolamine 102-71-6 85.0

PRODUCT NAME: TRIETHANOLAMINE, COMMERCIAL GRADE

NODUCT NAME: TRIETHANOLAMINE, COMMERCIAL GRADE PENNSYLVANIA Right-To-Know, Hazardous Substance List Hazardous Substances and Special Hazardous Substances on the List must be ptified when present in products. Components present in this product at a level which could require reporting under the statute are: HAZARDOUS SUBSTANCES UPPER BOUND CHEMICAL CAS NUMBER CONCENTRATION % Diethanolamine 111-42-2 15.0 Triethanolamine 102-71-6 85.0 TSCA INVENTORY STATUS The ingredients of this product are on the TSCA inventory. CALIFORNIA RULE 443.1 VOC'S: Not presently available NOTE ----The opinions expressed herein are those of qualified experts within Union Carbide Chemicals and Plastics Company. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of Union Carbide Chemicals Plastics Company, it is the user's obligation to determine the conditions of safe use of the product. Date: 10/31/88 Revision Date: 08/14/89 Printed in USA Revised Sections This MSDS was revised to include a warning statement on the potential for vapors and mists to spontaneously ignite under certain conditions. Refer to Section IX - Other Precautions. PRODUCT: 88205 F NUMBER: NO130C

Specialty Chemicals Division

39 Old Ridgebury Road, Danbury, CT 06817

October, 1989

Dear Customer:

We are writing this letter to advise you of a new warning which we are adding to the MSDS for most liquid organic chemicals. This warning relates to the potential for sudden spontaneous ignition of vapors and mists and was developed by our fire safety research laboratory.

This new warning has been added to Section IX, Special Precautions, of the MSDS. It states:

"WARNING: Hot organic chemical vapors or mists are susceptible to sudden spontaneous combustion when mixed with air. Ignition may occur at temperatures below those published in the literature as "autoignition" or "ignition" temperatures. Ignition temperatures decrease with increasing vapor volume and vapor/air contact time and are influenced by pressure changes.

Ignition may occur at typical elevated temperature process conditions, especially in process operating under vacuum if subjected to sudden ingress of air, or outside process equipment operating under elevated pressure if sudden escape of vapors or mists to the atmosphere occurs. Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained."

Essentially, this warning addresses potential hazards of organic product contained in (or leaking from) process equipment in areas free from ignition sources. Examples would include leaks from hot process equipment, and the sudden introduction of air into process organic liquids at elevated temperatures under vacuum. We recommend that you examine your particular processes to establish if an actual hazard exists.

We are adding this warning to the MSDS for any liquid organic product that has a flash point. Products purchased by you in the past two years which meet this criteria can be identified by referring to SECTION IV of the MSDS received from Union Carbide. Unless the FLASH POINT line(s) of SECTION IV shows "none" for a liquid product, the product meets the criteria.

Please add this warning to your file for each of these products. We will send you a modified Material Safety Data Sheet with your next purchase or shipment. Please contact our Director of Product Safety, Dr. W. F. Gorham, (203) 794-2817 if you would like additional information.

Very truly yours,

D. R. Engdahl

National Sales Manager

U.S. DEPARTMENT OF LABOR

Form No. 188-0054 May 2000 FORM 1665 (2001)

EXHIBIT "B"- /5

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

·	SECT	TION I				
MANUFACTURER'S NAME A. Gross &	Company		EMERGENCY TELEPHONE	3216		
ADDRESS (Number, Street, City, State, and ZIP Code	652 Do	remus Ave.,	Newark, N.J.		.03	
CHEMICAL NAME AND SYNONYMS ALKYO Grade	Soya Fat	ty Acid TRADE N.	AME AND SYNONY GRO	CO 2	8	
CHEMICAL FAMILY Fatty Acid						
SECTION						
PAINTS, PRESERVATIVES, & SOLVENTS	% TLV (Units)	ALLOYS AND M	ETALLIC COATINGS	%	TLV (Units)	
PIGMENTS 12	10	BASE METAL				
CATALYST A	1	ALLOYS		1		
VEHICLE	1	METALLIC COATINGS		•		
SOLVENTS	/	FILLER METAL PLUS COATING OR CO	DRE FLUX			
ADDITIVES (O:	,	OTHERS		1	 -	
OTHERS						
HAZ ARDOUS MIX TURES	OF GTHER LIG	UIDS, SOLIDS, OR GASI		76	TLV (Units)	
	· ·				(01113)	
I V V V	ie	٧٠.				
			· · · · · · · · · · · · · · · · · · ·	+	 -	
SEC	TION III F	PHYSICAL DATA		·		
BOILING POINT (F.) @ 1mm	340°F	SPECIFIC GRAVITY (H2	(0=1)	C	.850	
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)			0	
VAPOR DENSITY (AIR=1)	9.30	EVAPORATION RATE		1	< 1	
SOLUBILITY IN WATER Negligib	Le					
APPEARANCE AND ODOR Clear,	rellow 1	iquid				

SECTIO	N IV F	IRE AND EXPL	OSION HAZARD DATA	_	
FLASH POINT (Method ACCS CC9)	3 55	423°F	FLAMMABLE LIMIT Unknown	Lei	Uel
EXTINGUISHING MEDIA CO2 or	Dry C	hemical	· · · · · · · · · · · · · · · · · · ·		
SPECIAL FIRE FIGHTING PROCEDURES	None	Required			
UNUSUAL FIRE AND EXPLOSION HAZARDS	No	Special	Handling		

		CECTION	1/ 12FA	ATEL HIATA	Inn ma	T A		
THRESHOLD LIMIT V		SECTION		LIN RAZA	AND DA	.IA 		
EFFECTS OF OVEREXE		tails Un Eails Un		***				
	-OSURE DC				 	····		
EMERGENCY AND FIR	IST AID PROCEDURES	Eyes	- F1	ush wit	h Wa	ter		
								
				EACTIVIT	Y DATA	1	·	
STABILITY	UNSTABLE	<u> </u>	CONDITION	S TO AVOID				
	STABLE	X						
INCOMPATABILITY (laterials to avoid)							
HAZARDOUS DECOM	POSITION PRODUCTS	,						
HAZARDOUS	MAY OCCU	R		CONDITIO	ONS TO A	VOIS		·
POLYMERIZATION	WILL NOT O	CCUR	X	 				•
	with ito i	,ccox	<u> </u>	1				
		CTION VI		OR LEAK	PROCE	DURES		
STEPS TO BE TAKEN I				OR LEAK Wipe		DURES		
STEPS TO BE TAKEN I	N CASE MATERIAL IS		SPILLED	Wipe	e Up			
	N CASE MATERIAL IS	RELEASED OR	SPILLED	Wipe	e Up			
	N CASE MATERIAL IS	RELEASED OR	ure fo	Wipe or Fats	e Up	Oils		
	THOD NORMAL SECTION	Proced	ure fo	Wipe or Fats	e Up	Oils		
WASTE DISPOSAL ME	THOD NORMAL SECTION	Proced	ure fo	Wipe or Fats	e Up	Oils		
RESPIRATORY PROTEC	THOD NORMAL SECTION (Specify type)	L Proced	ure fo	Wipe or Fats	e Up	Oils ORMATION		
WASTE DISPOSAL ME	SECTION (Specify type) LOCAL EXHAUST MECHANICAL (Gen	L Proced	ure fo	Wipe or Fats	and ON INF	Oils ORMATION SPECIAL OTHER	y Glasses	5
WASTE DISPOSAL ME RESPIRATORY PROTECTION	SECTION (Specify type) LOCAL EXHAUST MECHANICAL (Get	L Proced	ure fo	Wipe or Fats PROTECTIO	and ON INF	Oils ORMATION SPECIAL OTHER		5
WASTE DISPOSAL ME RESPIRATORY PROTEC VENTILATION PROTECTIVE GLOVES	SECTION (Specify type) LOCAL EXHAUST MECHANICAL (Get	L Proced	ure fo	Wipe Or Fats PROTECTIO X	on INF	Oils ORMATION SPECIAL OTHER Safet		5
WASTE DISPOSAL ME RESPIRATORY PROTEC VENTILATION PROTECTIVE GLOVES	SECTION (Specify type) LOCAL EXHAUST MECHANICAL (General Security Securit	NOne SECTION	rure for	Wipe Or Fats PROTECTIO X EYE PROTE	on INF	ORMATION SPECIAL OTHER Safet		
WASTE DISPOSAL ME RESPIRATORY PROTEC VENTILATION PROTECTIVE GLOVES OTHER PROTECTIVE E	SECTION (Specify type) LOCAL EXHAUST MECHANICAL (General Security Securit	NOne SECTION	ECIAL F	Wipe Or Fats PROTECTIO X EYE PROTE	on INF	OILS ORMATION SPECIAL OTHER Safet ONS inum or	y Glasse:	

ROHM AND HARS COMPANY

CORPORATE PRODUCT INTEGRITY DEPARTMENT INDEPENDENCE MALL WEST PHILADELPHIA, PA 19105

EMERGENCY TELEPHONE 215-592-3000 (ROHM AND HAAS) 800-424-9300 (CHEMTREC)



É 8 E

HAZAKU HA I IIVG FIRE

4-EXTREME
3-HIGH
2-MODERATE TOXICITY
1-SLIGHT
0-INSIGNIFICANT
--SEE SECTION IV

REACTIVITY

USHA	MATERIAL SAF	ETY DA	TA SHEET	NOT OSHA HAZARDOUS
LIST 8		CODE	KEY	DOT HAZARD CLASS
RHOPLEX® B-832 Emulsion	an.	63832	904632-9	NONREGULATED
RHOPLEX B-032 EMUISIO	JII	DATE ISSUED	904032-9	- HONKEGULATED
			0/85	
FORMULA	CHEMICAL NAME OR SYNONYME	1 00/2	0/03	<u> </u>
Not applicable	Aqueous acrylic anul	lsion		
Mot applicable			DMATIONI	
	11 - COMPOSITI	IONAL INFO	NAPPROX WI	% TWA/TLV
	11/0/	AS REG. N		R&H OSHA ACGIH
Acrylic polymer	VV 1/ , 7	NONH	1 1	NE NE NE
Residual monomers (See	e Section X)	NOT R	1 1	
Ammonia	tion X)	NOT R	~	
Formaldehyde (See Sect	$f(x) = \int_{x}^{x} \int_{x}^{$	NOT R	~ 1/	0.5 3 1C ppm
Water		иоин	~ /	NE NE NE
	II - PHYSICAL P		NFORMATION	
APPEARANCE - ODOR - pH.				VISCOSITY
Milky-white liquid; m:	ild ammoniacal odor; pH	9.0-9.6		100 cps. (max.) Brookfield
MELTING OR FREEZING POINT	BOILING POINT	VAPOR PRES	SURE (mm Hg)	VAPOR DENSITY (AIR=1)
OC /32F (water)	100C /212F (water)	17 mm Hg	@ 20C/68F	>l (Heavier)
SOLUBILITY IN WATER	PERCENT VOLATILE (BY WEIGHT)	SPECIFIC GR	AVITY (WATER=1)	EVAPORATION RATE (BUTYL ACETATE=1)
Dilutable	60 (water)	1-1.2		<1 (Slower)
	III - FIRE AND EXPL	OSION HAZ	ARD INFORMA	TION
FLASH POINT	AUTO IGNITION TEMPERATURE		OSION LIMIT (%)	UPPER EXPLOSION LIMIT (%)
Non-combustible	NA NA	NA		NA
EXTINGUISHING MEDIA	CO ₂ DRY W	ATER	THER	
SPECIAL FIRE FIGHTING PROCEDUR	CHEWICAL L SP	RAY L		
NA	L 3			
na 				
UNUSUAL FIRE AND EXPLOSION HA	ZARDS			
Product will not burn	but may spatter if tem	nerature	exceeds boil	ing point. Polymer film are
	ing off oxides of carb			rig point. Torymer trim are
			ORMATION	
ROHM AND HAAS RECOMMENDED V		ALAND IN	ONWATION	
	STEL = 35 ppm ammonia;	1 ppm for	maldehyde	
EFFECTS OF OVEREXPOSURE	<u></u>			
Inhalation: Adverse h	ealth effects from vap	ors or sp	ray mists in	poorly ventilated areas may
include irritation of	the mucous membranes c	of the nos	e, throat, r	espiratory tract and symptoms
of headache and nausea	1.			
Skin Contact: Prolong	ged or repeated contact	with pro	duct may cau	se skin irritation.
Eye Contact: Direct of	contact with product ma	y result	in eye irrit	ation.
EMERGENCY AND FIRST AID PROCE			<u> </u>	
<u>Inhalation:</u> Remove su	bject to fresh air.			
				nty of water for at least 15
minutes and consult ph	ysician if irritation	persists;	wash skin tl	horoughly with soap and

Ingestion: If victim is conscious, give two glasses of water to drink. Call a physician. Do not give anything by mouth to an unconscious person.

water; if drenched, remove and wash clothing before reuse.

	V	- REACTIVITY IN	NFORMATION			
STABILITY	CONDITIO	NS TO AVOID				
X STABLE UNSTABLE	NA					
HAZARDOUS DECOMPOSITION PRODUCTS NA	3					
HAZARDOUS ROLVMERIZATION	CONDITIO	NS TO AVOID	" · 			
MAY X WILL NOT OCCUR	NA					
INCOMPATIBILITY IMATERIALS TO AVO						
WATER OTHER	NA	CONT. OD TEAK DO	COEDI IDE INE	ODMATION!		
STEPS TO BE TAKEN IN CASE MATERIAL		SPILL OR LEAK PR	OCEDURE INF	ORMATION		 -
Keep unnecessary people a and transfer the liquid t open bodies of water. Fl	away. 1	Dike and contain ainers for recove	ery or dispo	sal. Keep spi	ll out of sewers	
clear end-point. Decant	the cl	ear liquid to sev	wer and land	fill the coagu		on of
the entire emulsion is po may be incinerated.	ssible	but impractical	because of	the high water	content. Coagul	Lum
may be inclined accu.	VII	- SPECIAL PROTE	CTION INFORM	MATION		
VENTILATION TYPE Mechanical local exhaust	at poi	nt of contaminant	t (vapor or :	mist) release.		
RESPIRATORY PROTECTION None required if good ven respirator suitable for v					SH approved	
PROTECTIVE GLOVES	- I	EYE PROTECTION				
Impervious		Safety glasses			· · · · · · · · · · · · · · · · · · ·	
OTHER PROTECTIVE EQUIPMENT						
	VIII -	- STORAGE AND H	ANDLING INFO	RMATION		
STORAGE TEMPERATURE		INDOOR	HEATED	REFRIGERATED		
MAX. 60C/140F MIN. 1.1C/3 PRECAUTIONARY LABELING:		YES ROM FREEZINGPRO	NO NO	NO NO	YES	
					0031-0189	
		IX - TOXICITY				
The effects of overexposurumber of acrylic emulsions are: Rat, oral LD50: >5 practically nonirritating inconsequentially irritat	ns that .0 g/kg 72-ho	t are composition g; Rabbit, dermal	nally simila L LD50: >5.	r to this prod O g/kg; Rabbit	luct. Typical val	lues n:
	X	- MISCELLANEOL	JS INFORMAT	ION		
NOTE: Formaldehyde is an typical conditions of use NOTE: Monomer vapors can such a case, use local existence of the Recommended Practice publication of the Recommendation of the Recommendation of the Recommended Practice Publication of the Recommendation of the Reco	for the be evoluted to be evoluted t	nis product, the olved when product ventilation with evolution. Refer by the Am. Conf. established; NOT	R and H TWA It is heated a minimum car of Govt. Inc REQ or NR=nc	of 0.5 ppm widuring proces apture velocitical Ventilatid. Hygienists.	Il not be exceede sing operations. y of 100 ft/min. on: A Manual of	In (30
IA = NOT APPLICABLE	KEY		DATE OF ISSUE		SUPERSEDES	
C = CEILING VALUE THE INFORMATION CONTAINED HEREIN IS BA		04632-9 TA CONSIDERED		20/85 44s company assumes no	06/09/82 RESPONSIBILITY FOR PERSONAL	

ROHM AND HAAS COMPANY ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE TO VENDEES, USERS OR THIRD PARTIES CAUSED BY THE MATERIAL SUCH VENDEES OR USERS ASSUME ALL RISKS ASSOCIATED WITH THE USE OF THE MATERIAL.

ROHM AND HARS COMPANY

CORPORATE PRODUCT INTEGRITY DEPARTMENT INDEPENDENCE MALL WEST PHILADELPHIA, PA 19105

EMERGENCY TELEPHONE 215-592-3000 (ROHM AND HAAS) 800-424-9300 (CHEMTREC)



HAZARD RATING
4=EXTREME
3=H1GH
2=MODERATE
1=SLIGHT
0=INSIGNIFICANT
+*SEE SECTION IV

FIPE 0 REACTIVETY

OSHA LIST 8	MATERIAL SAF	ETY DATA	A SHEET	NOT OSHA HAZARDOUS
MATERIAL		CODE KE	Υ	DOT HAZARD CLASS
RHOPLEX® B-832 Emulsion	,	1 1	904632-9	NONREGULATED
NIIOT BEA' B 052 Mad15101	•	DATE ISSUED	904032 9	NONCEGULATED
		08/20/	85	
FORMULA	CHEMICAL NAME OR SYNONYMS	00/20/	······································	<u> </u>
Not applicable	Aqueous acrylic emu	leion		
NOT applicable			4451011	
	I - COMPOSIT	IONAL INFORM	APPROX WT	0/
	·	CAS REG. NO.	APPRUX WI	% TWAITLY R&H OSHA ACGIH
Acrylic polymer	`	NONHAZ	40.0	NE NE NE
Residual monomers (See	Section V)	NOT REQ	1	
Ammonia	Section x)	NOT REQ	l l	•
Formaldehyde (See Secti	on V)	NOT REQ	1	
	ton x)	NOT REQ NONHAZ	1	
Water	III - PHYSICAL F			NE NE NE
F	II - PHISICAL F	ROPERTY INF	ORMATION	Timeseasia
APPEARANCE - ODOR - pH.	ld	30006		VISCOSITY
Milky-white liquid; mil				100 cps. (max.) Brookfield
MELTING OR FREEZING POINT	BOILING POINT	VAPOR PRESSUR		VAPOR DENSITY (AIR=1)
OC /32F (water)	100C /212F (water) PERCENT VOLATILE (BY WEIGHT)	17 mm Hg @		>1 (Heavier)
	,		IT WATER-I	
Dilutable	60 (water)	1-1.2		<pre><1 (Slower)</pre>
	III - FIRE AND EXPL	OSION HAZAR	D INFORMA	TION
FLASH PCINT Non-combustible	AUTO IGNITION TEMPERATURE	NA	ON LIMIT (%)	UPPER EXPLOSION LIMIT (%) NA
EXTINGUISHING MEDIA		ATEROTHE	R	
SPECIAL FIRE FIGHTING PROCEDURES		<u> </u>	·····	······································
AN				
UNUSUAL FIRE AND EXPLOSION HAZ	ARDS			
Product will not burn b	out may spatter if ten	mperature exc	ceeds boili	ng point. Polymer film are
capable of burning givi				-
		AZARD INFOR		
ROHM AND HAAS RECOMMENDED WOTEN TWASee SECTION I. ST	ORK PLACE EXPOSURE LIMITS PEL = 35 ppm ammonia;	1 ppm forma:	ldehyde	
EFFECTS OF OVEREXPOSURE				
1	alth effects from var	ors or spray	/ mists in	poorly ventilated areas may
				espiratory tract and symptom
of headache and nausea.		,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		opposition, state and symptom
Skin Contact: Prolonge		with produc	rt may caus	se skin irritation.
Eye Contact: Direct co				
2,0 00000		., 505220	0,0000000000000000000000000000000000000	
EMERGENCY AND FIRST AID PROCEDU			<u> </u>	
Inhalation: Remove sub	ject to fresh air.			
				ty of water for at least 15
minutes and consult phy	sician if irritation	persists; wa	sh skin th	oroughly with soap and

Ingestion: If victim is conscious, give two glasses of water to drink. Call a physician. D

water; if drenched, remove and wash clothing before reuse.

not give anything by mouth to an unconscious person.

0031-0190

		- REACTIVIT	Y INFORMATION	V	
STABILITY	CONDIT	IONS TO AVOID			
X STABLE UNSTABLE	NA				
HAZARDOUS DECOMPOSITION PRODUCT	'S				
NA					
HAZARDOUS POLYMERIZATION MAY WILL NOT		IONS TO AVOID			
DOCCOR DOCCOR	NA			· · · · · · · · · · · · · · · · · · ·	
INCOMPATIBILITY (MATERIALS TO AVO					
WATER OTHER	NA	2001 20 1544	556655155		
		SPILL OR LEAK	PROCEDURE II	NFORMATION	
STEPS TO BE TAKEN IN CASE MATERIA Keep unnecessary people			nin enill with	h inart mataria	ol (sond couth otal)
and transfer the liquid	_		_		- ·
open bodies of water. F.					
WASTE DISPOSAL METHODS COAG	ulate	the emulsion w	ith ferric ch	loride or sulfa	ite and then lime to a
clear end-point. Decant					
the entire emulsion is po					
may be incinerated.					-
	VII	- SPECIAL PRO	OTECTION INFO	RMATION	
VENTILATION TYPE					
Mechanical local exhaust	at po	int of contamin	nant (vapor o	r mist) release	ł .
RESPIRATORY PROTECTION					-
None required if good ver					OSH approved
respirator suitable for v	vapor (trations encou	untered.	-
PROTECTIVE GLOVES		EYE PROTECTION			
Impervious	·	Safety glasse	es 		
OTHER PROTECTIVE EQUIPMENT					
<u> </u>	VIII	- STORAGE AN	D HANDLING IN	EODMATION	
STORAGE TEMPERATURE	1 7 111	INDOOR	HEATED	REFRIGERATE	D OUTDOOR
MAX. 60C/140F MIN. 1.1C/3	34F	YES	NO	NO	YES
PRECAUTIONARY LABELING:	KEEP I	FROM FREEZING-	-PRODUCT MAY	COAGULATE.	
					0021 010
					0031-0191
		CTV TOWN			
			ITY INFORMATI		
The effects of overexposu					
<pre>number of acrylic emulsion are: Rat, oral LD50: >5</pre>		-	-	_	
practically nonirritating	_			-	•
inconsequentially irritating		iour Mean IIII	tation score -	- U to Z; Rabbi	t, eye illitation:
Inconsequentially illicat					
		X - MISCELLAN	IEOUS INFORMA	ATION	_
NOTE: Formaldehyde is an	anima	al carcinogen:	however, obje	ective data ind	licate that under
typical conditions of use					
NOTE: Monomer vapors can					
such a case, use local ex					
m/min.) at the point of m					
Recommended Practice publ					
FOOTNOTE TO SECTION I: N		-			-
RHOPLEX® IS A TRADEMARK O		•		-	IES OR AFFILIATES.
	KEY		DATE OF ISSU		SUPERSEDES
C = CEILING VALUE		904632-9		3/20/85	06/09/82
THE INFORMATION CONTAINED HEREIN IS B					NO RESPONSIBILITY FOR PERSONAL

ROHM AND HALS COMPANY ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OF PROPERTY DAMAGE TO VENDEES, USERS OR THIRD PARTIES CAUSED BY THE MATERIAL SUCH VENDEES OR USERS ASSUME ALL RISKS ASSOCIATED WITH THE USE OF THE MATERIAL.

ROHM AND HARS COMPANY

CORPORATE PRODUCT INTEGRATY DEPARTMENT INDEPENDENCE MALL WEST PHILADELPHIA, PA 19105

EMERGENCY TELEPHONE 215-592-3000 (ROHM AND HAAS) 800-424-9300 (CHEMTREC)



AZARD RATING	FIRE
EXTREME HIGH	0 REACTINGS
MODERATE TOXIC	~(1 × 0)
INSIGNIFICANT SEE SECTION IV	SPECIAL
	•

OSHA	MATERIAL SA	FETY DATA	SHEET	- NOT OSHA HAZARDOUS
LIST 8		CODE KE		DOT HAZARD CLASS
RHOPLEX® B-832 Emulsion	22	1 1	904632-9	
RHOPLEX® B-632 Emulsion	J11	DATE ISSUED	904632-9	NONREGULATED
		08/20/8	25	
FORMULA	CHEMICAL NAME OR SYNONY			
Not applicable	Aqueous acrylic em	·· -		
not applicable		ITIONAL INFORM	MATION	
<u> </u>	[1 = CONIFOS	ITIONAL INFORM	APPROX WI	TWA/TLV
		CAS REG. NO.	Tarrion W	R&H OSHA ACGIH
Acrylic polymer		NONHAZ	40.0	NE NE NE
Residual monomers (See	e Section X)	NOT REQ	0.2 Max	
Ammonia		NOT REQ	J	
Formaldehyde (See Sect	tion X)	NOT REO	0.05	0.5 3 1C ppm
Water		NONHAZ	60.0	NE NE NE
	II - PHYSICAL	PROPERTY INFO		
APPEARANCE - ODOR - pH.				VISCOSITY
Milky-white liquid; m:	ild ammoniacal odor;	pH 9.0-9.6		100 cps. (max.) Brookfield
MELTING OR FREEZING POINT	BOILING POINT	VAPOR PRESSURE	(mm Hg)	VAPOR DENSITY (AIR=1)
OC /32F (water)	100C /212F (water)	17 mm Hg @	20C/68F	>1 (Heavier)
SOLUBILITY IN WATER	PERCENT VOLATILE (BY WEIGH	ITI SPECIFIC GRAVIT	Y (WATER=1)	EVAPORATION RATE (BUTYL ACETATE=1)
Dilutable	60 (water)	1-1.2		(Slower)
	III - FIRE AND EXP	PLOSION HAZAR	D INFORMA	TION
FLASH PCINT	AUTO IGNITION TEMPERATURE		N LIMIT (%)	UPPER EXPLOSION LIMIT (%)
Non-combustible	NA	NA		NA
EXTINGUISHING MEDIA	CO CO DRY	WATER TOTHE	D.	
FOAM	CHEMICAL L	SPRAY DIAE	n 	
SPECIAL FIRE FIGHTING PROCEDUR	ÆS			
AA				
UNUSUAL FIRE AND EXPLOSION HA	7 A R D S			
			ande boil	ing point. Polymer film are
capable of burning giv				ing point. Polymer riim are
capable of builting give				
		HAZARD INFOR	MATION	
ROHM AND HAAS RECOMMENDED VINASee SECTION I.	work place exposure limits STEL = 35 ppm ammonia	: 1 ppm formal	dehvde	
EFFECTS OF OVEREXPOSURE	722 OO PP. Camoriza	, - pp	.acyac	
	nealth effects from v	apors or spray	mists in	poorly ventilated areas may
				espiratory tract and symptom
of headache and nausea				osperacely estate and symptom
Skin Contact: Prolong		ct with produc	t mav cau	se skin irritation.
Eye Contact: Direct of	-	_	_	
			-4	
EMERGENCY AND FIRST AID PROCE	DURES	_ 		·····
	bject to fresh air.			
	•			
Eye and Skin Contact:	Promptly and thorou-	ghly wash eves	with ple	nty of water for at least 15
				horoughly with soap and
		•		

Ingestion: If victim is conscious, give two glasses of water to drink. Call a physician. I

water; if drenched, remove and wash clothing before reuse.

not give anything by mouth to an unconscious person.

0031-0192

	V	- REACTIVITY	NFORMATION		
STABILITY	CONDITIO	ONS TO AVOID			
X STABLE UNSTABLE	NA				
HAZARDOUS DECOMPOSITION PRODUC	:TS		· · · · · · · · · · · · · · · · · · ·		
NA	12				
HAZARDOUS POLYMERIZATION MAY WILL NOT		ONS TO AVOID			
Doccon D occon	NA NA	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
INCOMPATIBILITY (MATERIALS TO A)	NA				
		SPILL OR LEAK PI	ROCEDURE INFOR	MATION	
STEPS TO BE TAKEN IN CASE MATERI			TOOLDONE ME ON	MATION	
Keep unnecessary people and transfer the liquid open bodies of water. I	to cont	tainers for recov	very or disposal	l. Keep spill	l out of sewers and
	the cl	lear liquid to se	ewer and landfil because of the	ll the coagulue high water o	
VENTILATION TYPE		- SPECIAL PROTE	ECTION INFORMA	TION	
Mechanical local exhaust	: at poi	nt of contaminar	it (vapor or mis	st) release.	
RESPIRATORY PROTECTION			· · · · · · · · · · · · · · · · · · ·	- I CICUDET	
None required if good verespirator suitable for					i approved
PROTECTIVE GLOVES		EYE PROTECTION			
Impervious		Safety glasses			
OTHER PROTECTIVE EQUIPMENT					
Ĺ <u></u>	IVIII	- STORAGE AND I	JANDUNG INFORM	MATION	
STORAGE TEMPERATURE	1 4 111	INDOOR	HEATED	REFRIGERATED	OUTDOOR
MAX. 60C/140F MIN. 1.1C/	'34F	YES	NO	NO	YES
PRECAUTIONARY LABELING:	KEEP F	ROM FREEZINGPF	ODUCT MAY COAGU	JLATE.	0031-0193
· · · · · · · · · · · · · · · · · · ·	-	IX - TOXICITY	INFORMATION	······	
The effects of overexposenumber of acrylic emulsicare: Rat, oral LD50: > practically nonirritating inconsequentially irrita	ons tha 5.0 g/k	own in Section IV at are compositions; Rabbit, derma	are based on a mally similar to 1 LD50: >5.0	to this produc g/kg; Rabbit,	ct. Typical values skin irritation:
	7	K - MISCELLANEO	US INFORMATION	1	
NOTE: Formaldehyde is a typical conditions of us					
NOTE: Monomer vapors ca					
such a case, use local e					
m/min.) at the point of					
Recommended Practice pub					
FOOTNOTE TO SECTION I:		•	-	-	
RHOPLEX® IS A TRADEMARK	OF ROHM	AND HAAS COMPAN		SUBSIDIARIES	OR AFFILIATES.
NA * NOT APPLICABLE C = CEILING VALUE	KEY	0.4600 5	DATE OF ISSUE	-	UPERSEDES
THE INFORMATION CONTAINED HEREIN IS		04632-9	08/20/ ROHM AND H445		06/09/82 ESPONSIBILITY FOR PERSONAL

ROHM AND HAAS COMPANY ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE TO VENDEES, USERS OR THIRD PARTIES CAUSED BY THE MATERIAL SUCH VENDEES OR USERS ASSUME ALL RISKS ASSOCIATED WITH THE USE OF THE MATERIAL.

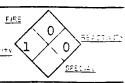
ROHM AND HARS COMPANY

CORPORATE PRODUCT INTEGRITY DEPARTMENT INDEPENDENCE MALL WEST PHILADELPHIA, PA 19105

EMERGENCY TELEPHONE 215-592-3000 (ROHM AND HAAS) 800-424-9300 (CHEMTREC)



HAZARD RATING
4-EXTREME
3-HIGH
2-MODERATE
1-SLIGHT
0-INSIGNIFICANT
--SEE SECTION IV



OSHA	MATERIAL SA	AFFTY DA	ATA	SHEET	TON	OSHA	HAZA	RDOUS
LIST 8								
MATERIAL		CODE	KEY		DOT HAZA		_	
RHOPLEX® B-832 Emuls	ion	63832	90	04632-9	NONREG	ULATE!	D	
		DATE ISSUED						
		08/2	20/85	5				
FORMULA	CHEMICAL NAME OR SYNON			· · · · · · · · · · · · · · · · · · ·				<u> </u>
Not applicable	Aqueous acrylic e	mulsion						
	1 - COMPO	SITIONAL INF	ORM	ATION				
				APPROX WT	%		TWA/TL	.v
		CAS REG. 1	NO.		R&H	OSHA A	ACGIH	
Acrylic polymer		NON	HAZ	40.0	NE	NE	NE	
Residual monomers (S	ee Section X)	NOT I	REQ	0.2 Max.	NR	NR	NR	
Ammonia		NOT I	REQ	0.2 Max.	25	50	25	ppm
Formaldehyde (See Se	ction X)	NOT I	REQ	0.05	0.5	3	1C	ppm
Water		NON!	HAZ	60.0	NE	NE	NE	•
	II - PHYSICAL	L PROPERTY	INFO	RMATION				
APPEARANCE - ODOR - pH.					VISCOSITY	,		
Milky-white liquid:	mild ammoniacal odor;	pH 9.0-9.6			100 cp	s. (m	ax.)	Brookfield
MELTING OR FREEZING POINT	BOILING POINT	VAPOR PRES	SSURE	(mm Ha)	VAPOR DE			
OC /32F (water)	100C /212F (water)	17 mm Ho		•	>1 (He	avier)	
SOLUBILITY IN WATER	PERCENT VOLATILE (BY WEIG							L ACETATE= 1)
Dilutable	60 (water)	1-1.2			<1 (S1	ower)		
		PLOSION HAZ	ZARD	INFORMAT			•	
FLASH POINT	AUTO IGNITION TEMPERATUR				UPPER EXP	LOSION	LIMIT (%)
Non-combustible	NA	NA			NA			
EXTINGUISHING MEDIA								
FOAM ALCOHOL"	CO2 DRY CHEMICAL	SPRAY	OTHER					
SPECIAL FIRE FIGHTING PROCED								
NA								
UNUSUAL FIRE AND EXPLOSION	HAZARDS							
Product will not burn	n but may spatter if	temperature	exce	eds boili	ng poin	t. P	olyme	r film are
capable of burning g:	iving off oxides of ca	arbon/nitro	gen.		_ _			
 	IIV - HEALTH	HAZARD IN	FORM	ATION				
ROHM AND HAAS RECOMMENDED	WORK PLACE EXPOSURE LIMITS							
TWASee SECTION I.	STEL = 35 ppm ammonia	a; 1 ppm for	mald	lehyde				
EFFECTS OF OVEREXPOSURE								
Inhalation: Adverse	health effects from '	vapors or sp	oray	mists in	poorly	venti	lated	i areas may
include irritation of	f the mucous membrane:	s of the nos	se, t	hroat, re	spirato	ry tr	act a	and sympton
of headache and nause	ea.				_	-		
Skin Contact: Prolom	nged or repeated conta	act with pro	duct	may caus	e skin	irrit	ation	1.
	contact with product							
		•						
EMERGENCY AND FIRST AID PRO	CEDI IBEC							
	subject to fresh air.							
	.amjece so aresii alli							
Fwe and Skin Contact:	: Promptly and thorou	nahlu wash s	aves	with nlen	tv of w	ater '	for =	t least le
	physician if irritation							
mindres and consult f	undarcron ir ittiffgfl(ni herprore!	Was	TI DVTII (II)	or onalit	y ₩±Ll	ıı əva	שוום או

water; if drenched, remove and wash clothing before reuse.

Ingestion: If victim is conscious, give two glasses of washot give anything by mouth to an unconscious person.

Ingestion: If victim is conscious, give two glasses of water to drink. Call a physician. I not give anything by mouth to an unconscious person.

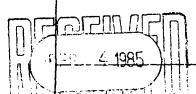
	N	- REACTIVITY IN	FORMATION		
STABILITY	CONDITI	ONS TO AVOID			
X STABLE UNSTABLE	NА				
HAZARDOUS DECOMPOSITION PRODUCTS	5				
NA HAZARDOUS POLYMERIZATION	CONDITI	IONS TO AVOID	- 		
MAY WILL NOT	NA	IONS TO AVOID			
INCOMPATIBILITY (MATERIALS TO AVO					
WATER OTHER	NA				
	VI -	SPILL OR LEAK PRO	CEDURE INFORMA	TION	
STEPS TO BE TAKEN IN CASE MATERIAL	-				
Keep unnecessary people a and transfer the liquid t					
open bodies of water. Fl					
1					
į					
1					
WASTE DISPOSAL METHODS COAGU	115+0	the emulsion with	forria ablorido	or sulfato a	nd thon lime to a
1 -		lear liquid to sew			
the entire emulsion is po					
may be incinerated.		·			
	VII	- SPECIAL PROTEC	TION INFORMATIO	N	
VENTILATION TYPE				-	
Mechanical local exhaust	at po	int of contaminant	(vapor or mist)	release.	
RESPIRATORY PROTECTION None required if good ven	tilat	ion is maintained.	Otherwise wear	MSHA/NIOSH a	approved
respirator suitable for v					
PROTECTIVE GLOVES		EYE PROTECTION		 -	
Impervious		Safety glasses			
OTHER PROTECTIVE EQUIPMENT					
L	VIII	- STORAGE AND HA	ANDLING INFORMA	TION	
STORAGE TEMPERATURE	1 111	INDOOR	HEATED INFORMA	REFRIGERATED	OUTDOOR
MAX. 60C/140F MIN. 1.1C/3	4F	YES	NO	NO	YES
PRECAUTIONARY LABELING:	KEEP !	FROM FREEZINGPRO	DUCT MAY COAGULA	TE.	
					0031-0195
		_			
		IX - TOXICITY			
The effects of overexposu					
number of acrylic emulsio					
are: Rat, oral LD50: >5 practically nonirritating					
inconsequentially irritating		nour Mean IIIItatio	on score - 0 to	z; Rabbit, e	ye illitation:
Inconsequencially IIII car		V - MICOPLI ANDOLI	C INFORMATION		
		X - MISCELLANEOU	SINFORMATION		
NOTE: Formaldehyde is an					
typical conditions of use					
NOTE: Monomer vapors can					
such a case, use local ex			_	_	
m/min.) at the point of m Recommended Practice publ					A Manual OI
FOOTNOTE TO SECTION I: N					
RHOPLEX® IS A TRADEMARK O		-		-	OR AFFILIATES.
	KEY		DATE OF ISSUE		RSEDES
C = CEILING VALUE		904632-9	08/20/85	1 -	06/09/82
THE INFORMATION CONTAINED HEREIN IS B.	ASED ON 1	DATA CONSIDERED	ROHM AND HAAS COM	PANY ASSUMES NO RESPO	ONSIBILITY FOR PERSONAL

ROHM AND HAAS COMPANY ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE TO VENDEES USERS OR THIRD PARTIES CAUSED BY THE MATERIAL SUCH VENDEES OR USERS ASSUME ALL RISKS ASSOCIATED WITH THE USE OF THE MATERIAL.

U.S. DEPARTMENT OF LABOR.

Form Approved OMB No. 44-R1387

Occupational Safety and Health Administration



MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Staphending, and Staphending (29 CER 1915, 1916, 1917)

SECTION I							
MANUFACTURER'S NAME CHEMICAL CORPORATION OF AMERICA	EMERGENCY TELEPHONE NO. (201) 438-5800						
ADDRESS (Number, Street, City, State, and ZIP Code) 2 Carlton Ave., East Rutherford, N. J. 07073							
CHEMICAL NAME AND SYNONYMS T	POLY EMULSION 43 N40						
Nonionic propylene/maleic anhydride copolymer emul	sion						

SECTION	- ۱۱ ل	HAZAI	RDOUS INGREDIENTS		
PAINTS, PRESERVATIVES, & SOLVENTS	*	YLV (Units)	ALLOYS AND METALLIC COATINGS	×	TLV (Units)
PIGMENTS		N/A	BASE METAL		N/A
CATALYST		N/A	ALLOYS		N/A
VEHICLE		N/A	METALLIC COATINGS		N/A
SOLVENTS		N/A	FILLER METAL PLUS COATING OR CORE FLUX		N/A
ADDITIVES		N/A	OTHERS		N/A
OTHERS		N/A	_		N/A
HAZARDOUS MIXTURĘ	S OF (OTHER LIC	DUIDS, SOLIDS, OR GASES	×	TLV (Units)
V N Ł	7	<u> </u>)		
18 0 19		None			
1/ //					
7				1	

	SECTION III .	PHYSICAL DATA			
BOILING POINT (°F.)	212°C	SPECIFIC GRAVITY (H20-1)	1		
VAPOR PRESSURE (mm Hg.)	17.5	PERCENT, VOLATILE BY VOLUME (%)	60%		
VAPOR DENSITY (AIR=1)	1	EVAPORATION RATE	1		
SOLUBILITY IN WATER Disp.					
APPEARANCE AND ODUR Grey, tra	nslucent liq	uid. Characteristic odor.			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA										
FLASH POINT (Method used)	None	FLAMMABLE LIMITS N/A	Lol	Uel						
EXTINGUISHING MEDIA	N/A			 						
SPECIAL FIRE FIGHTING PRO	None None									
UNUSUAL FIRE AND EXPLOSI	ON HAZAROS None									
	•									

,		SE	CTION	٧٠١	HEA	LTH HAZARD	DATA	
THRESHOLD LIMIT	VALU		Jnknown	N ;				
Possible naus	Possible nausea if ingested in large quantities. Irritating to eves. Possible							
skin irritan			· · · · ·					
EMERGENCY AND F	IRST /			oap a	ınd ı	vater. If s	plashed in eyes, wash with	
copious amou	nts c	of water f	<u>Collowe</u>	d by	1%_1	poric acid so	olution and consult a physican	
If ingested,	•	•						
			SECTIO	N, AI	- R	EACTIVITY DA	ATA	
STABILITY	UNST	TABLE		COND	ITION	S TO AVOID		
	STAE	 BLF.	X			!		
INCOMPATABILITY	(hlaser	ials to avoid)	1	l				
HAZARDOUS DECO	MPOSI	TION PRODUC	CTS.					
	•					CONDITIONS TO	AVOID	
HAZARDOUS POLYMERIZATION		MAY OCCUP		_		 	·	
		WILL NOT C	CCUR		X	L		
L						· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
		SECT	ION VII	· SP	HLL (OR LEAK PRO	CEDURES	
STEPS TO BE TAKE	N IN C							
				· · · · · · · · · · · · · · · · · · ·				
Adsor	b an	d dispose	of as	soli	d or	ganic waste.		
WASTE DISPUSAL A	4ETHO					<u> </u>		
WASTE DISPOSICE		(s	ee abou	/e)	<u></u>			
	<u>, </u>	·						
<u> </u>								
		CECTION	· · · · · ·	DECL	A I D	POTECTION	NFORMATION	
255002470404 200	TE 671				AL P	AUTECTION I	NECHMATION	
RESPIRATORY PRO			Non	e rec	quir	ed.		
VENTILATION	No	AL EXHAUST O Special	ventil	ation	n re	quired.	SPECIAL	
	MEC	HANICAL /Gr	ncral)				OTHER	
PROTECTIVE GLOV		commended				EVE PROTECTIO		
OTHER PROTECTIV			h1 -		•	1	Goggles required.	
	7 .		NO	ne				
:	i english			·		CIAL PRECAU	TIONS ALS THE SECOND	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING								
	Keep From Freezing							
OTHER PRECAUTIO)NS		N	one				

ROHM AND HAAS COMPANY

EXHIBIT "B"- 18

CORPORATE PRODUCT INTEGRITY DEPARTMENT INDEPENDENCE MALL WEST PHILADELPHIA, PA 19105

EMERGENCY TELEPHONE 215-592-3000 (ROHM AND HAAS) 800-424-9300 (CHEMTREC)



HAZARD RATING FIRE
4=EXTREME
3=HIGH
2=MODERATE TOXICITY
1=SLIGHT
0=INSIGNIFICANT
0=SEE SECTION IV

1 0 REACTIVITY
SPECIAL

PEL	MATERIAL SAF	ETY DAT	A SHEET	NOT OSHA HAZARDOUS
LIST 8		,		NOT WHMIS CONTROLLED
MATERIAL		1 1	KEY	DOT HAZARD CLASS
DURAPLUS™ 1 Emulsion		68429	893054-3	NONREGULATED
·		DATE ISSUED		
		05/25,	/89	<u> </u>
FORMULA	CHEMICAL NAME OR SYNONYMS			
Not Applicable	Aqueous acrylic emul			
	I - COMPOSIT	IONAL INFOR	MATION	
			APPROX WT	
		AS REG. NO	i i	R&H OSHA ACGIH
Acrylic copolymer	•) NONHA:		NE NE NE
	Section X)	NOT RE	- (
Ammonia (12 /	7664-41-	5	**
Water	2017	NONHA	Z 61-63	. NE NE NE
19				
	II - PHYSICAL P	ROPERTY IN	FORMATION	
APPEARANGE - ODOR - pH.				VISCOSITY
Milky white liquid; sl				100 cps max.
MELTING OR FREEZING POINT	BOILING POINT	VAPOR PRESSU		VAPOR DENSITY (AIR-1)
OC/32F water	100C/212F water	17 20C/68		Less than 1, water
SOLUBILITY IN WATER	PERCENT VOLATILE (BY WEIGHT)	1	VITY (WATER=1)	EVAPORATION RATE (BUTYL ACETATE-1)
Dilutable	61-63 water	1.0-1.2		Less than 1, water
	III - FIRE AND EXPL	OSION HAZA	RD INFORMA	TION
FLASH POINT	AUTO IGNITION TEMPERATURE	LOWER EXPLOS	ION LIMIT (%)	UPPER EXPLOSION LIMIT (%)
Non-combustible	NA	_NA	······································	NA
EXTINGUISHING MEDIA	CO2 DRY	ATER [] DI	d	
L FOAM L		RAY C		·
SPECIAL FIRE FIGHTING PROCEDURE	S			
Nana				
None				
UNUSUAL FIRE AND EXPLOSION HAZ	ARDS			
Material can splatter a	· - -	mam film m	an haan	
material can splatter a	above 100C/212F. Fory	mer rrim ce	an Durn.	
······	1111	13166 1062	5444	
· · · · · · · · · · · · · · · · · · ·		AZARD INFO	RMATION	
ROHM AND HAAS RECOMMENDED W TWASee SECTION I. S.				
EFFECTS OF OVEREXPOSURE	THE - 33 PPM CHARGE			
	nist can cause beadach	e. hallsea	and irritat	tion of the nose, throat and
lungs.	arbe can caube neadach	e, naabca,	and tritte	cross or the hose, throat and
_	ing to skin upon repea	ted or pro	longed conta	act
Eye Contact: Slightly		ted of pro.	conged conte	
<u> </u>	Titledening to ofto.			
EMERGENCY AND FIRST AID PROCED	LINCA		·	<u></u>
Inhalation: Move subject				
	C CO LIEDII GIL.			
Two and Skin Contact:	Flush eves with a lar	de amount d	of water for	at least 15 minutes. See
physician if irritation	r hergiers. Mazu gile	cted skin a	reas with 8	soap and water.

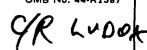
		IV DEACTIVAT	TV INTEMPREATION	1 1	
STABILITY		V - REACTIVIT	T INFORMATION	<u> </u>	
X STABLE	UNSTABLE	Temperatures over	177C/350F		
	OMPOSITION PRODUC		2770,33011		
NA					
HAZARDOUS POL	YMERIZATION WILL NOT OCCUR	CONDITIONS TO AVOID			
INCOMPATIBILITY	Y (MATERIALS TO AV				
WATER	OTHER	NA			
		VI - SPILL OR LEAK AL IS RELEASED OR SPILLED	PROCEDURE IN	FORMATION	
Keep specta spill with disposal ar	ators away. I inert materia nd solid dikin	Floor may be slippery al (e.g., sand, earth ng material to separa municipal sewers and). Transfer late containers	iquid to contain for disposal. I	ners for recovery or
supernatant	the emulsion be liquid and i	by the stepwise addit flush to a chemical serial according to lo	ewer. Landfil	l and incinerate d federal regula	e the solids and the
	 	VII - SPECIAL PR	OTECTION INFO	RMATION	
VENTILATION TY		t ventilation at poin	t of contamina	int release.	
RESPIRATORY PRO		. Ventilation at poin	COI COILEMIZING	int release.	The second secon
None requir	ed if good ve	entilation is maintai concentrations and			
PROTECTIVE GLO		EYE PROTECTION			
Impervious		Chemical spl	ash goggles (A	ANSI Z-87.1 or ap	pproved equivalent)
OTHER PROTECTIV	VE EQUIPMENT				
L		IVIII - STORAGE AN	D HANDLING IN	FORMATION	
STORAGE TEMPER		INDOOR	HEATED	REFRIGERATED	OUTDOOR
MAX. 60C/14		F KEEP FROM FREEZING-	770700	10.000.000	
PRECRUTION	KI BABBING.	RESE FROM FREEZING	PRODUCT MAT		0031-0199
<u> </u>		IX - TOXIC	CITY INFORMATI	ON	
number of a	crylic emulsi	sure shown in Section ons that are compositions of the section of	tionally simil	ar to this produ	uct. Typical values
practically		ng72-hour Mean Irri			
practically	nonirritatin	ng72-hour Mean Irri	tation Score =	0 to 2; Rabbit,	
NOTE: Mono such a case m/min.) at Recommended	mer vapors ca the point of Practice pub	ng72-hour Mean Irri	NEOUS INFORMAtion oduct is heater ith a minimum Refer to Industrial Industria	TION ed during process capture velocity strial Ventilation. Hygienists.	sing operations. In y of 100 ft/min. (30
NOTE: Mono such a case m/min.) at Recommended FOOTNOTE TO	mer vapors ca the point of Practice pub	X - MISCELLAN In the evolved when preshaust ventilation we monomer evolution. Dlished by the Am. Con NE-not established;	NEOUS INFORMA oduct is heate ith a minimum Refer to Indus nf. of Govt. I	TION ed during process capture velocity strial Ventilation and. Hygienists.	sing operations. In y of 100 ft/min. (30 on: A Manual of
NOTE: Mono such a case m/min.) at Recommended FOOTNOTE TO	mer vapors ca the point of Practice pub SECTION 1:	X - MISCELLAN In be evolved when preshaust ventilation we monomer evolution. Olished by the Am. Con NE-not established;	NEOUS INFORMAtion Score = NEOUS INFORMAtion oduct is heater that a minimum Refer to Industrial of Govt. Information of Govt. Information of REQ or NR=	TION adduring process capture velocity strial Ventilation and. Hygienists. not required.	sing operations. In y of 100 ft/min. (30 on: A Manual of
NOTE: Mono such a case m/min.) at Recommended FOOTNOTE TO	mer vapors ca the point of Practice pub SECTION I:	X - MISCELLAN In the evolved when preshaust ventilation we monomer evolution. Dlished by the Am. Con NE-not established;	NEOUS INFORMA oduct is heated the a minimum Refer to Indus nf. of Govt. I NOT REQ or NR=	TION adduring process capture velocity strial Ventilation and. Hygienists. not required.	sing operations. In y of 100 ft/min. (30 on: A Manual of

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

ROHM AND HAAS COMPANY ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE TO VENDEES, USERS OR THIRD PARTIES CAUSED BY THE MATERIAL, SUCH VENDEES OR USERS ASSUME ALL RISKS ASSOCIATED WITH THE USE OF THE MATERIAL.

U.S. DEPARTMENT OF LAUUN Occupational Safety and Health Administration

OMB No. 44-R1387



Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I						
MANUFACTURER'S NAME			EN	SERGENCY TELEPH	ONE NO.	
NYACOL INC 6178812			<u> </u>	0		
ADDRESS (Number, Street, City, State, and ZIP Con MGGUNCO RD	ie)	ASH	LAND MA			
CHEMICAL NAME AND SYNONYMS	· c .	-	TRADE	ACO C	144	
CHEMICAL RAMILY		vates	FORMULA	02 1/2		
2//	<u> </u>	04127				
SECTION	11 -	,	DOUS INGREDIENT	TS		
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND MET	ALLIC COATINGS	*	TLV (Units)
PIGMENTS			BASE METAL			
CATALYST			ALLOYS			
VEHICLE			METALLIC COATINGS			
SOLVENTS			FILLER METAL PLUS COATING OR COR	E FLUX		
ADDITIVES			OTHERS			
OTHERS						
HAZARDOUS MIXTURES	OF C	THER LIC	UIDS, SOLIDS, OR GASES	8	%	
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				<u></u>		
		·				
SEC.	LION	VIII - P	HYSICAL DATA			
BOILING POINT (°F.)		212	SPECIFIC GRAVITY (H2C	O=1)		1. 3
VAPOR PRESSURE (mm Hg.)	W	ates	PERCENT, VOLATILE BY VOLUME (%)			75
VAPOR DENSITY (AIR=1)	w	ater	EVAPORATION RATE		w	ates
SOLUBILITY IN WATER	T -	otal				
APPEARANCE AND ODOR S/18/1/4		lous	ly, no odo	7		
SECTION IV - FIRE AND EXPLOSION HAZARD DATA						
FLASH POINT (Method used)	Int	ANDE	FLAMMABLE LIMITS			Uel
<u> </u>	2		TOWNS CONT.			
EXTINGUISHING MEDIA			·			
SPECIAL FIRE FIGHTING PROCEDURES		· <u></u> · · · ·				
UNUSUAL FIRE AND EXPLOSION HAZARDS		ho	ne			

PAGE (1)

(Continued on reverse side)

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	SECTION V - HEALTH HAZARD DATA
THRESHOLD LIM	T VALUE hone
EFFECTS OF OVE	
	pH = 10
EMERGENCY AND	D FIRST AID PROCEDURES
	wash well
	SECTION VI - REACTIVITY DATA
STABILITY	UNSTABLE CONDITIONS TO AVOID
	STABLE X
INCOMPATABILIT	V (Materials to avoid) freezing, and, caustic salts
HAZARDOUS DEC	OMPOSITION PRODUCTS Acces acces acces
HAZARDOUS	MAY OCCUR CONDITIONS TO AVOID
POLYMERIZATION	WILL NOT OCCUR
	The state of the s
	SECTION VII - SPILL OR LEAK PROCEDURES
STEPS TO BE TAK	EN IN CASE MATERIAL IS RELEASED OR SPILLED
	wash well
WASTE DISPOSAL	flush well with water
	SECTION VIII - SPECIAL PROTECTION INFORMATION
RESPIRATORY PR	OTECTION (Specify type)
VENTILATION	LOCAL EXHAUST IS Brayed, sully dust can result
Y shaus	MECHANICAL (General) OTHER
PROTECTIVE	VES 1, LEYE PROTECTION
OTHER PROTECTI	dry skin use jes
	SECTION IX - SPECIAL PRECAUTIONS
PRECAUTIONS TO	BE TAKEN IN HANDLING AND STORING
	do not preent
OTHER PRECAUTION	ons
	
	GPO 934-110
PAGE (2)	Form OSHA-20

TETRASODIUM EDTA, SOLUTION, 50% AKA HAMPENETOO

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

STANCHEM Inc. 43 Jutland Road. Etobicoke, Ontario

M87 2G6

(416) 259-8231

WHM1S Number: 00061252 Index: HCI0095/97A

Effective Date: 1997 January 24 Date of Revision: 1997 February 04

EMERGENCY TELEPHONE NUMBERS

Toronto, Ont.

(416) 226-6117

Montreal. Que (514) 861-1211

Winnipeg, Man.

(204) 943-8827

Edmonton, Alta.

(403) 424-1754

Vancouver, B.C.

(604) 685-5036

PRODUCT IDENTIFICATION

Product Name: Tetrasodium EDTA. Solution, 50%. Chemical Name: Tetrasodium EDTA Aqueous Solution.

Synonyms: Questal Special 0860; Tetrasodium ethylenediamine tetraacetate

Aqueous Solution.

Chemical Family: Organic Sodium Salt. Molecular Formula: C10H12N2O8.4Na.

Product Use: Chelating Agent. Complexing Agent.

CAS #: See Section 3. "Composition, Information on Ingredients".

WHMIS Classification: E: Corrosive.

Risk Phrases: Corrosive.

READ THE ENTIRE MSDS FOR THE COMPLETE HAZARD EVALUATION OF THIS PRODUCT.

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Corrosive! Causes severe skin and eyes burns. Vapors are extremely irritating to eyes and respiratory tract. Can decompose at high temperatures forming toxic gases. Contents may develop pressure on prolonged exposure to heat.

POTENTIAL HEALTH EFFECTS

. Inhalation: Corrosive! Product may cause severe irritation of the nose, throat and respiratory tract. Repeated and/or prolonged exposures may cause productive cough, running nose, bronchopneumonia, pulmonary edema (fluid build-up in lungs), and reduction of pulmonary function.

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. Skin Contact: Corrosive! Concentrated solutions may cause pain and deep and severe burns to the skin. Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin.

- . Skin Absorption: May be absorbed through intact skin. See "Other Health Effects" Section.
- . Eye Contact: Extremely corrosive! This product causes corneal scarring and clouding. Glaucoma, cataracts and permanent blindness may occur.
- . Ingestion: Corrosive! This product causes severe burning and pain in the mouth, throat and abdomen. Vomiting, diarrhea and perforation of the esophagus and stomach lining may occur.

Other Health Effects: Corrosive effects on the skin and eyes may be delayed. and damage may occur without the sensation or onset of pain. Strict adherence to first aid measures following any exposure is essential.

3. COMPOSITION, INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS O	F MATERIAL		
Hazardous Ingredients	CAS No.	ACGIH TLV	%
Sodium Hydroxide	001310-73-2	2 mg/M3 (Ceiling)	1 - 5
Trisodium Nitrilo- triacetate	005064-31-3	Not Listed.	0.1 - 1
NON-HAZARDOUS INGREDIEN	TS OF MATERIALS	ACGIH	
Non-Hazardous Ingredient	ts CAS No.	TLV	%
Tetrasodium EDTA Water	000064-02-8 007732-18-5	Not Listed. Not Listed.	30 - 60 Balance.

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4. FIRST AID MEASURES

FIRST AID PROCEDURES

. Inhalation: Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Oxygen administration may be beneficial in this situation but should only be administered by personnel trained in its use. Obtain medical attention IMMEDIATELY.

. Skin Contact: Flush skin with running water for a minimum of 30 minutes or up to 60 minutes for critical body areas. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim unless the recommended flushing period is completed or flushing can be continued during transport.

While the patient is being transported to a medical facility, apply compresses of iced water. If medical treatment must be delayed, immerse the affected area in iced water. If immersion is not practical, compresses of iced water can be applied. Avoid freezing tissues.

- . Eye Contact: Immediately flush eyes with running water for a minimum of 30 minutes, preferably up to 60 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.
- . Ingestion: Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. IMMEDIATELY contact local poison control centre. Vomiting may need to be induced but only under the direction of a physician or a poison control centre. IMMEDIATELY transport victim to an emergency facility.

Note to Physicians: Due to the severly irritating or corrosive nature of the material, swallowing may lead to ulceration and inflammation of the upper alimentary tract with hemorage and fluid loss. Also, perforation of the esophagus or stomach may occur, leading to mediastinitis or peritonitis and the resultant complications. (3)

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Mucosal injury following ingestion of this corrosive material may contraindicate the induction of vomiting in the treatment of possible intoxication. Similarly, if gastric lavage is performed, intubation should be done with great care. If oral burns are present or a corrosive ingestion is suspected by the patient's history, perform esophagoscopy as soon as possible. Scope should not be passed beyond the first burn because of the risk of perforation.

This product contains materials that may cause severe pneumonitis if aspirated. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage: use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed.

Medical conditions that may be aggravated by exposure to this product include diseases of the skin. eyes or respiratory tract.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flammability Class (WHMIS): Not regulated.

Flash Point (TCC, Deg. Celsius): Not applicable.

Autoignition Temperature (Deg. Celsius): Not applicable.

Flammability Limits in Air (%): LEL: Not applicable.

UEL: Not applicable.

Hazardous Combustion Products: Thermal decomposition products are toxic and may include ammonia, aldehydes, ketones, oxides of carbon, nitrogen and sodium.

Unusual Fire or Explosion Hazards: Closed containers exposed to heat may explode. Spilled material may cause floors and contact surfaces to become slippery.

Sensitivity to Mechanical Impact: Not available. Not expected to be

sensitive to mechanical impact.

Rate of Burning: Not available. Explosive Power: Not available.

Sensitivity to Static Discharge: Not available. Not expected to be sensitive

to static discharge.

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EXTINGUISHING MEDIA

Fire Extinguishing Media: For large fires use an all purpose type AFFF foam according to foam manufacturer's recommended techniques. The foam supplier should be consulted for recommendations regarding foam types and delivery rates for specific applications. Use carbon dioxide or dry chemical media for small fires. If only water is available, use it in the form of a fog. This material may produce a floating fire hazard in extreme fire conditions. Dry chemical, foam, carbon dioxide or Halon 1211.

FIRE FIGHTING INSTRUCTIONS

Instructions to the Fire Fighters: Use water spray to cool fire-exposed containers or structures. Use water spray to disperse vapours. Spilled material may cause floors and contact surfaces to become slippery.

Fire Fighting Protective Equipment: Use self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region. The responsibility of reporting lies directly with the handlers of the substance.

Containment and Clean-Up Procedures: Wear protective clothing. Spilled material may cause floors and contact surfaces to become slippery. Collect product for recovery or disposal. For release to land, or storm water runoff, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Ventilate enclosed spaces. Notify applicable government authority if release is reportable or could adversely affect the environment.

7. HANDLING AND STORAGE

HANDL ING

Handling Practices: Use normal "good" industrial hygiene and housekeeping practices. Aluminum and its alloys should not be used in equipment for storage, handling or transportation.

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Ventilation Requirements: Do not use in poorly ventilated or confined areas without proper respiratory protection. Ventilation should be corrosion proof.

Other Precautions: Use only with adequate ventilation and avoid breathing aerosols (vapours or mists). Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use.

Corrosive fogs are most likely to occur at the exhaust pipes of manufacturing or storage tanks, especially during the tank filling process. Compressed air should be used with care to unload acids, bases and other corrosive products from delivery trucks. It is highly recommended that the product be cleaned from the exhaust pipe. Knowledge of laws and regulations which set out the measures to be followed is required.

Absorption via contact with skin, eyes and mucous membranes can contribute to the overall exposure. Consider measures to prevent absorption by these routes.

STORAGE

Storage Temperature (Deg Celsius): See below.

Ventilation Requirements: Ventilation should be corrosion proof.

Storage Requirements: Store in a clean, cool well ventilated area, away from organic chemicals, strong bases, metal powders, carbides, sulfides, and any readily oxidizable material. Protect from direct sunlight. Protect against physical damage. Storage tanks should be in a contained area to control any spills or leaks. Storage area should be equipped with corrosion-resistant floors, sumps and should have controlled drainage to a recovery tank.

Corrosive mist is most likely to be generated at the vents of process or storage tanks, especially during filling operations. The use of compressed air to force corrosive materials from delivery trucks is of special concern. Scrubbing the exhaust of these vents is highly recommended. Jurisdictional regulations should be consulted to determine required practices.

Special Materials to be Used for Packaging or Containers: Equipment for storage, handling or transportation should not made of: carbon steel. Copper and its alloys or Zinc and its alloys. Aluminum and its alloys should not be used in equipment for storage, handling or transportation. Confirm suitability of any material before using.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

ENGINEERING CONTROLS

Engineering Controls: Local exhaust ventilation required. Ventilation should be corrosion proof. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense vapours may collect.

For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed. Such a procedure must include consideration of, among other things, ventilation, testing of tank atmosphere, provision and maintenance of SCBA, and emergency rescue.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection: Use full face-shield and chemical safety goggles when there is potential for contact.

Skin Protection: Gloves and protective clothing made from rubber or plastic should be impervious under conditions of use. Discard contaminated gloves.

An analysis of available data shows the chemical resistance of a material can decrease when it is exposed to a solvent mixture. Although few such studies are available for review, dramatic decreases in permeation (break through) times have been observed. The importance of testing protective barriers before using a solvent mixture cannot be overstressed. Prior to use, user should confirm impermeability.

Respiratory Protection: No specific guidelines available. A NIOSH/MSHA-approved air-purifying respirator equipped with dust, mist, fume cartridges for concentrations up to 2.0 mg/M3 Sodium Hydroxide. An air-supplied respirator if concentrations are higher or unknown.

Other Personal Protective Equipment: Wear an impermeable apron and boots.

Locate safety shower and eyewash station close to chemical handling area.

Take all precautions to avoid personal contact.

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EXPOSURE GUIDELINES

Recommended Exposure Limit: None established for this product.

Sodium Hydroxide

ACGIH TLV (STEL) 2 mg/M2 (Ceiling)
OSHA PEL (STEL) 2 mg/M3 (Ceiling)
NIOSH REL (STEL) 2 mg/M3 (Ceiling)

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Appearance and Odour: Pale yellow liquid. Mild odour.

Odour Threshold (ppm): Not available. Boiling Range (Deg Celsius): 106.

Melting/Freezing Point (Deg Celsius): Not available.

Vapour Pressure (mm Hg at 20 Deg. Celsius): Not available.

Vapour Density (Air = 1.0): Not available.

Relative Density (gm/cc, Water = 1.0): 1.3 to 1.4.

Bulk Density: 1,300 to 1,400 Kg/M3.

Viscosity: Not available.

Evaporation Rate (Butyl Acetate = 1.0): Not available.

Solubility: Soluble in water.

% Volatile by Volume: 49.0 to 50.0.

pH: 11.0 to 13.0 (1% Aqueous Solution).

Coefficient of Water/Oil Distribution: Not available.

Volatile Organic Compounds (VOC): Not available.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Under Normal Conditions: Stable. Under Fire Conditions: Flammable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: High temperatures, sparks, open flames and all other sources of ignition.

Do not distill to dryness. Avoid excessive temperature or prolonged reflux. such as in batch distillation.

Tetrasodium EDTA, Solution, 50% WHMIS Number: 00061252

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Materials to Avoid: Strong oxidizers. Lewis or mineral acids. Carbon steel. Copper and its alloys. Zinc and its alloys. Aluminum and its alloys. Reducing agents. Alkalies. Strong bases.

Decomposition or Combustion Products: Thermal decomposition products are toxic and may include ammonia, aldehydes, Ketones, oxides of carbon, nitrogen and sodium.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Tetrasodium EDTA LD50 (Oral, Rat) = 630 - 1.260 mg/Kg (3)

Sodium Hydroxide LD50 (Dermal, Rabbit) = 1.350 mg/Kg (3)

Trisodium Nitrilotri - LD50 (Oral, Rat) = 1,100 mg/Kg (1)

acetate

LD50 (Oral, Mouse) = 681 mg/Kg (1)

Carcinogenicity Data: The ingredient(s) of this product is (are) not classified as carcinogenic by ACGIH (American Conference of Governmental Industrial Hygienists) or IARC (International Agency for Research on Cancer), not regulated as carcinogens by OSHA (Occupational Safety and Health Administration), and not listed as carcinogens by NTP (National Toxicology Program).

This product may contain a trace amount (less than 0.1%, w/w) of a carcinogen (Nitrolotriacetic Acid). Large dietary doses of Nitrolotriacetic Acid have caused urinary tumours in laboratory animals. There is little likelihood that Nitrolotriacetic Acid could cause cancer in humans, especially at subtoxic doses. (3)

Reproductive Data: Tetrasodium EDTA: The results of reproductivity tests in animals have been negative. See "Other Studies Relevant to Material".

Mutagenicity Data: Tetrasodium EDTA: The results of mutagenicity tests in animals have been negative or inconclusive. See "Other Studies Relevant to Material".

Teratogenicity Data: Sodium Salts of EDTA may cause teratogenic / embryotoxic effects based on studies in laboratory animals, but only at high, generally toxic doses. See "Other Studies Relevant to Material".

Respiratory / Skin Sensitization Data: None known.

Synergistic Materials: None known.

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Disposal of Packaging: Empty containers retain product residue (liquid and/or vapour) and can be dangerous. Do not expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Do not dispose of package until throughly washed out.

14. TRANSPORTATION INFORMATION

CANADIAN TDG ACT SHIPPING DESCRIPTION:

Shipping Name: Corrosive Liquids, NOS (Tetrasodium EDTA).

Shipping Class/Division: 8(9.2).

Product Identification No (UN): UN1760.

Packing Group: III.

Label(s)/Placard(s): Corrosive.

Regulated Limit (9.2): Sodium Hydroxide: 50 Kg: This product: 1,300 Kg.

Exemptions: Not available.

U.S. DOT CLASSIFICATION: Not regulated. (3)

15. REGULATORY INFORMATION

CANADA

CEPA - NSNR: All constituents of this product are included on the DSL under the CEPA.

CEPA - NPRI: Not included.

Controlled Products Regulations Classification (WHMIS): E: Corrosive.

USA

Environmental Protection Act: All constituents of this product are included on the TSCA inventory under the US-EPA.

OSHA Hazard Communication (29CFR 1910.1200) Classification: Corrosive.

HMIS: 2 Health, 1 Fire, 0 Reactivity. (3)

INTERNATIONAL: Not available.

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16. OTHER INFORMATION

ADDITIONAL INFORMATION AND SOURCES USED

- 1. RTECS-Registry of Toxic Effects of Chemical Substances. On-line search. Canadian Centre for Occupational Health and Safety RTECS database. Vol I-V, 1985-1986 edition. Doris V. Sweet, Ed., National Institute for Occupational Safety and Health, U.S. Dept. of Health and Human Services, Cincinnati, 1987.
- 2. Clayton, G.D. and Clayton, F.E., Eds., Patty's Industrial Hygiene and Toxicology, 3rd ed., Vol. IIA.B.C. John Wiley and Sons. New York, 1981.
- Supplier's Material Safety Data Sheet(s).
- 4. "CHEMINFO", through "CCINFOdisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.
- 5. Guide to Occupational Exposure Values. 1995. American Conference of Governmental Industrial Hygienists. Cincinatti. 1995.
- 6. The British Columbia Drug and Poison Information Centre. Poison Managements Manual, Canadian Pharmaceutical Association, Ottawa, 1981.

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Stanchem Inc. will not be liable for any damages. losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years.

WHMIS Number: 00061252

Stanchem Inc.

Date of Revision: 1997 February 04

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To obtain revised copies of this or other Material Safety Data Sheets, contact your nearest Stanchem Regional office.

Stanchem Regional Offices:

Stanchem Inc., 800 Terminal Avenue, Vancouver, British Columbia, V6A 2M8

Phone: (604) 685-1411 Facsimile: (604) 681-5218

Stanchem Inc., 6628 - 45 th. Street, Leduc, Alberta, T9E 7C9

Phone: (403) 986-4544 Facsimile: (403) 986-1070

Stanchem Inc., 681 Plinquet Street, Winnipeg, Manitoba, R2J 2X2

Phone: (204) 233-5361 Facsimile: (204) 233-7005

Stanchem Inc., 43 Jutland Road. Etobicoke, Ontario, M8Z 2G6

Phone: (416) 259-8231 Facsimile: (416) 259-6175

Stanchem Inc., 2900 Jean Baptiste Des., Lachine, PQ, H8T 1C8

Phone: (514) 636-9230 Facsimile: (514) 636-0877

Stanchem Inc., A-105 Akerley Boulevard, Dartmouth, Nova Scotia, B3B 1R7

Phone: (902) 468-9690 Facsimile: (902) 468-3085

Prepared By: Regulatory Affairs Group, Stanchem Inc., (416) 259-8231.



stanchem

STANCHEM INC., 2900, boul. J.-B.-Deschamps, Lachine (Québec) HBT 1C8 • Tél.: (514) 636-9230 Téléc.: (514) 636-0877

MESSAGE PAR TÉLÉCOPIE/FAX MESSAGE

DESTINATAIRE/ADDRESSEE: Well ENTREPRISE/COMPANY: Vilchen	
Nº DE TÉLÉC/FAX №: (401)727 - 0752	
EXPÉDITEUR/SENDER : Caroline Bédard, ingénieure/Engineer	№ de tél/Tel. № : (514) 636-9230
Service technique/Technical Service	Nº de téléc./Fax № : (514) 636-8229
Il just want to confirm that the	here is no volatile organic compound
Il just want to confirm that the In EOTA. Because of the metallic atmospheric photochemical reactions.	here is no volatile organic compound carbides, the EDTA has no
Il just want to confirm that to in EOTA. Because of the metallic atmospheric photochemical reactions.	leve is no volatile organice compound) carbides, the EDTA flass no Regards,
Il just want to confirm that to in EOTA. Because of the metallic atmospheric photochemical reactions.	

(Réf. fax.cb)

Stanchem Inc. - un distributeur de qualité ISO 9002-94 de produits chimiques

Vancouver

Edmonton

Moose Jaw

Winnipeg

Toronto

Montréal

Dartmouth

MATERIAL SAFETY DATA SHEET

100000071/F/USA

| Approval Date: 09/24/1992

EXHIBIT "B"- 2/

wot on Liso

Print Date: 11/11/1992 Page 1

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: "EKTASOLVE" DE Solvent

Product Identification Number(s): SPC 2590

| Manufacturer/Supplier: Eastman Chemical Company, A Division of Eastman Kodak Company, Kingsport, Tennessee 37662

MSDS Prepared by: Material Safety Program, Eastman Chemical Company, A Division of Eastman Kodak Company, Kingsport, TN 37662

For Emergency Health, Safety & Environmental Information, Call: 800-EASTMAN

For Emergency Transportation Information, Call CHEMTREC: 800-424-9300 or call: 800-EASTMAN

For Other Information, Call your Eastman representative or the Eastman operator 615-229-2000 (USA)

Chemical Name: 2-(2-ethoxyethoxy)ethanol

Synonym(s): KAN 902413; PM 01799-00; diethylene glycol monoethyl ether

Molecular Formula: C6H14O3

Molecular Weight: 134.18

Product Use: solvent

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Weight % - Component - (CAS Registry No.)

100 diethylene glycol monoethyl ether (000111-90-0)

HAZARDS IDENTIFICATION

WARNING!

PEROXIDE FORMER

COMBUSTIBLE LIQUID AND VAPOR

HMIS Hazard Ratings: Health - 1, Flammability - 2, Chemical Reactivity - 0

NFPA Hazard Ratings: Health - 1, Flammability - 2, Chemical Reactivity - 0

NOTE: HMIS and NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of 100000071/F/USA

Approval Date: 09/24/1992 Print Date: 11/11/1992

Page 5

Dermal study (rat): NOEL for maternal toxicity = 7 g/kg (highest dose tested); NOEL for developmental toxicity = 7 g/kg (highest dose tested)

Reproductive Toxicity Data: Oral study (rat): LOEL = 950 mg/kg/day (decrease in growth rate) (target organ effects: bladder)

Dermal absorption rate (human, in vitro): 0.125 mg/cm2/hour

12. ECOLOGICAL INFORMATION

Introduction: This environmental effects summary is written to assist in addressing emergencies created by an accidental spill which might occur during the shipment of this material, and, in general, it is not meant to address discharges to sanitary sewers or publically owned treatment works.

Summary: Data for this material have been used to estimate its environmental impact. It has the following properties: a moderate biochemical oxygen demand and may cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a moderate potential to biodegrade (moderate persistence) with unacclimated microorganisms from activated sludge, a low potential to bioconcentrate. When diluted with a large amount of water, this material released directly or indirectly into the environment is not expected to have a significant impact.

Oxygen Demand Data:

BOD-5: 0.14 g oxygen/ml BOD-20: 1.9 g oxygen/ml COD: 1.9 g oxygen/g

Acute Aquatic Effects Data:

24-h LC-50 (goldfish): >5000 mg/L 96-h LC-50 (bluegill sunfish): >10,000 mg/L

Secondary Waste Water Treatment Effects: 5-hour IC-50: >5000 mg/L

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate.

Since emptied containers retain product residue, follow label warnings even after container is emptied.

| 14. TRANSPORT INFORMATION

- DOT (USA) Classification: for quantities of 110 gal or less: not regulated;

MATERIAL SAFETY DATA SHEET

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Approval Date: 09/24/1992 Print Date: 11/11/1992

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- European Inventory of Existing Commercial Chemical Substances (EINECS): This product is listed on EINECS or has been approved in the European Community by new substance notification.

- Australian Inventory of Chemical Substances (AICS) and National Industrial Chemicals Notification and Assessment Scheme (NICNAS): This product is listed on AICS or otherwise complies with NICNAS.
- Japanese Handbook of Existing and New Chemical Substances: This product is listed in the Handbook or has been approved in Japan by new substance notification.

1 16. OTHER INFORMATION

US/Canadian Label Statements:

WARNING!
PEROXIDE FORMER
COMBUSTIBLE LIQUID AND VAPOR

Keep away from heat and flame. Keep container closed. Store away from heat and light.

IN CASE OF FIRE: Use water spray, dry chemical, carbon dioxide (CO2), alcohol foam. Use water spray to keep fire-exposed containers cool.

IN CASE OF SPILL: Eliminate all ignition sources. Flush spill area with water spray. Prevent runoff from entering drains, sewers, and streams.

Since emptied containers retain product residue, follow label warnings even after container is emptied.

CAUTION: FOR MANUFACTURING, PROCESSING OR REPACKING BY TRAINED PERSONNEL

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

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100000081/F/USA

Approval Date: 12/04/1995

Print Date: 12/14/1995

Page 1

EXHIBIT "B"- 22



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: "EASTMAN" DBP Plasticizer

Product Identification Number(s): SPC 14917

Manufacturer/Supplier: Eastman Chemical Company, Kingsport, Tennessee 37662

MSDS Prepared by: Eastman Health, Safety, and Environmental Services, Eastman

Chemical Company, Kingsport, TN 37662

For Emergency Health, Safety & Environmental Information, call 800-EASTMAN

For Emergency Transportation Information, call CHEMTREC at 800-424-9300 or call 800-EASTMAN

For Other Information, call your Eastman representative or the Eastman operator at 423-229-2000 (USA)

Chemical Name: 1,2-benzenedicarboxylic acid, dibutyl ester

Synonym(s): PM 00081-00; EAN 901403; dibutyl phthalate

Molecular Formula: C16H22O4

Molecular Weight: 278.35

Product Use: plasticizer

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

dibuty1 phthalate (000084-74-2) 100

3. HAZARDS IDENTIFICATION

HIGH ORAL DOSES OF THIS MATERIAL CAUSE ADVERSE REPRODUCTIVE EFFECTS IN LABORATORY ANIMALS - SEE MSDS FOR DETAILS

HMIS Hazard Ratings: Health - 1, Flammability - 1, Chemical Reactivity - 0

NFPA Hazard Ratings: Health - 0, Flammability - 1, Chemical Reactivity - 0

NOTE: HMIS and NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately

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ACGIH Threshold Limit Value (TLV): 5 mg/m3 TWA

OSHA (USA) Permissible Exposure Limit (PEL, 1989 Table Z-1-A values or section-specific standards): 5 mg/m3 TWA

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: mist. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

Eye Protection: It is a good industrial hygiene practice to minimize eye contact.

Skin Protection: It is a good industrial hygiene practice to minimize skin contact.

Recommended Decontamination Facilities: eye bath, washing facilities

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical Form: liquid
- Color: colorless
- Odor: odorless
- Odor Threshold: not applicable
- Specific Gravity at 20°C (68°F) (water = 1): 1.05
- Vapor Pressure at 20°C (68°F): 0.0000189 mbar (0.0000142 mm Hg)
- Vapor Density (Air = 1): 9.6
- Evaporation Rate: negligible
- Boiling Point: 340°C (644°F)
- Melting Point: -35°C (-31°F)
- Viscosity: not available
- Solubility in Water: 11.2 mg/L (negligible)
- pH: not available
- Octanol/Water Partition Coefficient: log P = 4.79, P = 61660
- Flash Point (Cleveland open cup): 191°C (375°F)
- Lower Explosive Limit at 236°C (457°F): 0.47 volume %
- Upper Explosive Limit: not available
- Autoignition Temperature (ASTM D2155): 404°C (759°F)
- Sensitivity to Mechanical Impact: insensitive at 100 kg-cm
- Sensitivity to Static Discharge: not available

10. STABILITY AND REACTIVITY

```
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  testes) (only dose tested);
```

Oral study (21 days, rat): LOEL = 624 mg/kg/day (minor target organ effects: liver); NOEL = not established

Oral study (35-45 days, rat): LOEL = 2500 mg/kg/day (target organ effects: testes); LOEL = 250 mg/kg/day (target organ effects: liver) (reduced body weight gain); NOEL = 250 mg/kg/day (testes)

Oral study (90 days, rat): NOAEL = 120 mg/kg/day (minor target organ effects: liver); NOEL = not established

Oral study (105 days, mouse): NOAEL = 1300 mg/kg/day (minor target organ effects: liver); NOEL = 390 mg/kg/day

Chronic Toxicity Data:

Oral study (1 year, rat): NOEL = 0.125 % in diet (only concentration tested)

Developmental Toxicity Data:

Oral study (mouse): LOEL for maternal toxicity = 2100 mg/kg/day; NOEL for maternal toxicity = 660 mg/kg/day, NOEL for teratogenicity = 660 mg/kg/day; LOEL for embryo/fetotoxicity = 350 mg/kg/day

Oral study (rat): LOEL for embryo/fetotoxicity = 600 mg/kg/day; NOEL for developmental toxicity = 120 mg/kg/day

Reproductive Toxicity Data:

Oral study (mouse): LOEL for embryo/fetotoxicity = 1300 mg/kg/day; NOEL for developmental toxicity = 390 mg/kg/day

Dermal absorption rate (human, in vitro): 6.6 microgram(s)/cm2/hour Dermal absorption rate (human, in vitro): 0.07 microgram(s)/cm2/hour

Mutagenicity/Genotoxicity Data:

Cell transformation assay: negative Chromosomal aberration assay: equivocal Mitotic recombination (Saccharomyces cervisiae) assay: negative (+/activation) Mouse lymphoma assay: positive (+ activation), negative (- activation) Salmonella typhimurium assay (Ames test): negative

12. ECOLOGICAL INFORMATION

Introduction: This environmental effects summary is written to assist in addressing emergencies created by an accidental spill which might occur during

MATERIAL SAFETY DATA SHEET

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Radish: 100 microliter(s)/1 Lettuce: 100 microliter(s)/1

7-Day Plant Seedling Effects - No-adverse-effect concentration:

Marigold: 1000 microliter(s)/1
Radish: 1000 microliter(s)/1
Corn: 1000 microliter(s)/1
Lettuce: 1000 microliter(s)/1

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate.

14. TRANSPORT INFORMATION

- DOT (USA) Status: regulated. Marine pollutant, net quantities less than 4.5 kg (10.0 pounds) are not regulated; the following requirements apply to larger quantities:
- Class 9, packing group III
- DOT Reportable Quantity: 10.0 lb (4.5 kg)
- Air International Civil Aviation Organization (ICAO)
- ICAO Status: net quantities less than 4.5 kg (10 pounds) are not regulated; the following requirements apply to larger quantities:
- Class 9, packing group III
- Sea International Maritime Dangerous Goods (IMDG)
- IMDG Status: marine pollutant, net quantities less than 4.5 kg (10 pounds) are not regulated; the following requirements apply to larger quantities:
- Class 9, packing group III

15. REGULATORY INFORMATION

- This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.
- OSHA hazardous chemical(s): dibutyl phthalate
- California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): material(s) known to the State to cause cancer: none
- California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): material(s) known to the State to cause adverse reproductive effects:
- Massachusetts Substance List: dibutyl phthalate
- New Jersey Workplace Hazardous Substance List: dibutyl phthalate
- Pennsylvania Hazardous Substance List: dibutyl phthalate

MAILKIAL SAFETY DATA SHEET

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CAUTION: FOR MANUFACTURING, PROCESSING OR REPACKING BY TRAINED PERSONNEL

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

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The symbol ">" in the left margin denotes a revision in this section.

EXHIBIT "B"-23 MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

Simpounding,		III POI CAKIII	g (29 C/ N 1915, 1910, 1917)			
		SECT	ION I			
MANUFACTURER'S NAME			ENIERGENCY TE	LEPHONE	NO.	
NEW ENGLAND CHEMICAL COMP			(1-603-42	4-5545)	
ADDRESS (Number, Street, City, State, and ZIP C D.W. Highway, P.O. Box 34	ode)	Merrim	ack New Hampshire 030	51		
CHEMICAL NAME AND SYNONYMS	1	ACTITING	TRADE NAME AND SYNON	YMS		
AMMONIUM HYDROXIDE			AQUA AMMONIA, AM		AL	LIQUO
NITROGEN COMPOUNDS			NH3 IN SOLN. (NH4OH)			
SECTION	V 11 -	HAZAF	DOUS INGREDIENTS		_	
PAINTS, PRESERVATIVES, & SOLVENTS	×	TLV (Units)	ALLOYS AND METALLIC ODATI	NGS	*.	TLV (Units)
PIGMENTS			BASE METAL 100	n	1	
CATALYST			ALLOYS /	1.13		
VEHICLE			METALLIC COATINGS			
SOLVENTS		<u> </u>	FILLER METAL PLUS COATING OR CORE FLUX			
ADDITIVES			OTHERS			
OTHERS				_		
HAZARDOUS MIXTURE	S OF	OTHER LIC	OUIDS, SOLIDS, OR GASES		%	TLV (Units)
AMMONIUM UVDDOVIDE (AOIL	A A MM()	NIA) IS COMMONIV DESIG	MATED		· - ·-
			VIA) IS COMMONLY DESIG	MAILD		
AS 26° (29.4% NH ₃ in			CP5# 1336~21			
766	59	4/-/	,			
SEC	CTIO	N III - P	HYSICAL DATA			
BOILING POINT (°F.)		81°F	SPECIFIC GRAVITY (H20=1)		;	8974
VAPOR PRESSURE (mm Hg.)			PERCENT, VOLATILE BY VOLUME (%)			
VAPOR DENSITY (AIR=1)			EVAPORATION RATE (=1)			
SOLUBILITY IN WATER	IN	FINIT				
APPEARANCE AND ODOR : COLORLESS	LIQ	UID, S	TRONG PENETRATING ODOR	₹		
SECTION IV -	FIR	E AND E	EXPLOSION HAZARD DATA			
FLASH POINT (Method used) NONE			FLAMMABLE LIMITS	Lei		Uei
EXTINGUISHING MEDIA NONE					I	
SPECIAL FIRE FIGHTING PROCEDURES	NON	 Е		 		
				-		
UNUSUAL FIRE AND EXPLOSION HAZARDS	NON:	E				

	SECTION V - HEALTH HAZARD DATA
THRES 'OLD LIMI	T VALUE LLOWABLE CONCENTRATION OF (NH ₃) IN AIR - 50 PPM.
EFFECTS OF OVE	REXPOSURF
	(WHICH EXISTS ABOVE AQUA AMMONIA) OR AQUA AMMONIA IS A STRONG IRRITANT,
LSPECIALLY ADE IDDITAT	TO EYES AND MUCOUS MEMBRANES. TOXIC BY INGESTION BOTH LIQUID AND VAPOR
REMOVE VICT	ING AND MAY CAUSE BURNS. FIRST AID PROCEDURES BURNS. IM TO UNCONTAMINATED AREA. FLUSH EXPOSED AREAS WITH COPIOUS AMOUNTS OF
	H EYES (IF EXPOSED) FOR AT LEAST 30 MINUTES OR UNTIL A PHYSICIAN ARRIVES.
	G HAS CEASED GIVE ARTIFICIAL RESPIRATION. IF AVAILABLE, ADMINISTER
OXYGEN. CA	LL A PHYSICIAN

			SECTI	ON VI - F	EACTIVITY DATA
STABILITY UNSTABLE STABLE		STABLE		CONDITIO	NS TO AVOID
			XX		
INCOMPATABIL	ITY (Mai	erials to avoid)			
HAZARDOUS DI	ECOMPO:	SITION PRODU	CTS		
HAZARDOUS		MAY OCCUP	₹		CONDITIONS TO AVOID
POLYMERIZATION		WILL NOT OCCUR		xx	

SECTION VII - SPILL OR LEAK PROCEDURES
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED FLUSH CONTAMINATED AREA WITH PLENTY OF WATER, AS AQUA AMMONIA IS
INFINITELY SOLUBLE, THE MORE WATER ADDED, THE MORE DILUTED AND HARM-
LESS IT BECOMES.
WASTE DISPOSAL METHOD IF NOT PROHIBITED, WASTE MAY BE DISPOSED OF BY DILUTING WITH LARGE
AMOUNTS OF WATER AND WASHING SAME INTO ACCEPTED SEWER SYSTEMS.

SECTION VIII - SPECIAL PROTECTION INFORMATION						
RESPIRATORY PRO	TECTION (Specify type) NUT NURMA	LLY REQUIRED. IF EMERGENCY CONDI-				
TIONS MAKE	PROTECTION_NECESSARY_ A	FULL MASK IS PREFERRED.				
VENTILATION	LOCAL EXHAUST	SPECIAL				
	MECHANICAL (General) NOT REQUIRED, BUT GOOD	IDEA TO HAVE				
RUBBER (NEOF		EYE PROTECTION GOGGLES				
RUBBER BOOT	S, APRON, GLOVES, MASK	(FACE SHIELD), HAT				

SECTION IX - SPECIAL PRECAUTIONS					
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING CAUTION IS ALSO A GOOD PRACTICE WITH AQUA AMMONIA.					
OTHER PRECAUTIONS					
-					

PAGE (2)

Form OSHA-20 Rev. May 72

ROHM AND HAAS COMPANY

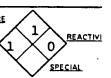
CORPORATE PRODUCT INTEGRITY DEPARTMENT INDEPENDENCE MALL WEST PHILADELPHIA, PA 19105

EMERGENCY TELEPHONE 215-592-3000 (ROHM AND HAAS) 800-424-9300 (CHEMTREC)

EXHIBIT "B"-24



HAZARD RATING FIRE
4-EXTREME
3-HIGH
2-MODERATE TOXICITY
0-INSIGNIFICANT
0-SEE SECTION IV



NOT OSHA HAZARDOUS MATERIAL SAFETY DATA SHEET LIST 7 CODE KEY DOT HAZARD CLASS MATERIAL TRITON® CF-10 Surfactant 61597 904162-7 NONREGULATED DATE ISSUED 01/13/87 **FORMULA** CHEMICAL NAME OR SYNONYMS C55 H96 O18 Octylphenoxypolyethoxyethyl benzyl ether nonionic surfactant COMPOSITIONAL INFORMATION APPROX WT % TWA/TLV CAS REG. NO R&H OSHA ACGIH Alkylaryl polyether alcohol NONHAZ 90 NE NE NE NONHAZ 1,0 Water NE NE NE NO J PHYSICAL PROPERTY INFORMATION APPEARANCE - ODOR - pH. VISCOSITY Clear to slightly hazy, light amber liquid; mild odor 250 cps Brookfield MELTING OR FREEZING POINT BOILING POINT VAPOR PRESSURE (mm Hg) VAPOR DENSITY (AIR-1) NА 16C/60F pour point Nil @ 20C NA SOLUBILITY IN WATER PERCENT VOLATILE (BY WEIGHT) SPECIFIC GRAVITY (WATER-1) EVAPORATION RATE (BUTYL ACETATE=1) Complete 1.05-1.06 <1 Ш FIRE AND EXPLOSION HAZARD INFORMATION FLASH POINT AUTO IGNITION TEMPERATURE LOWER EXPLOSION LIMIT (%) UPPER EXPLOSION LIMIT (%) 260C />500F TOC NA NA NA EXTINGUISHING MEDIA "ALCOHOL" X CO2 DRY WATER OTHER FOAM CHEMICAL **FOAM** SPECIAL FIRE FIGHTING PROCEDURES Wear respirator (pressure-demand, self-contained breathing apparatus, MSHA/NIOSH-approved or equivalent) and full protective gear. UNUSUAL FIRE AND EXPLOSION HAZARDS Explosive mixtures may form by compounding with strong oxidizing and reducing agents. HEALTH HAZARD INFORMATION $\mathbf{I}\mathbf{V}$ ROHM AND HAAS RECOMMENDED WORK PLACE EXPOSURE LIMITS None established EFFECTS OF OVEREXPOSURE Eye Contact: Slightly irritating to eyes. Skin Contact: Slightly irritating to skin. EMERGENCY AND FIRST AID PROCEDURES Inhalation: Move subject to fresh air. Eye and Skin Contact: Flush eyes with a large amount of water for at least 15 minutes. See physician if irritation persists. Wash affected skin areas with soap and water. Ingestion: If swallowed dilute by giving 2 glasses of water to drink. See a physician. Never give anything by mouth to an unconscious person.

1	V - REACTIVITY IN	FORMATION	
TABILITY	CONDITIONS TO AVOID		
X STABLE UNSTABLE	Excessive heat None known		
A	is none known		
AZARDOUS POLYMERIZATION	CONDITIONS TO AVOID		·
OCCUR X WILL NOT	None		
WATER X OTHER	old) Strong oxidizing and r	educing agents.	
	VI - SPILL OR LEAK PRO		
TEPS TO BE TAKEN IN CASE MATERIA	AL IS RELEASED OR SPILLED		
protection. Dike and co solid material into a su containers for recovery disposal. Flush cleaned	ntain spill with inert m itable container for rec or disposal and solid di	use care to avoid fallin aterial (e.g., sand, eart overy or disposal. Trans king material to separate ntaminated (chemical) sew n bodies of water.	h). Scoop or shovel fer liquid to containers for
			ļ
		ate, and federal regulati	
		(Landfill must be large e ing a stream or treatment	
	VII - SPECIAL PROTEC	TION INFORMATION	
VENTILATION TYPE NORMAL room ventilation.			•
ESPIRATORY PROTECTION			
one required if good ve		Wear respirator (MSHA/N s of air contaminants enc	
ROTECTIVE GLOVES	EYE PROTECTION		
mpervious	Sarety glasses (ANSI Z87.1 or approved eq	mingrenit)
yewash facility			
	VIII - STORAGE AND HA	ANDLING INFORMATION	
TORAGE TEMPERATURE	INDOOR	HEATED REFRIGERATED	OUTDOOR YES
MAX. MIN. Ow temperature storage		ems. Viscosity of materi	
•	- -	_	
		•	
	TTV TOVICITY	INFORMATION	
Oral LD50 rat: 2600 mg/		INFORMATION greater than 2 g/kg. Ey	e irritation rabbit:
ransient irridial and c	onjunctival effects. Sc	ore of 11 during first da t skin; mild to moderate	y and 0 by third day.
	X - MISCELLANEOU	S INFORMATION	
	· ·		
•		•	
NE=None established			0031-0225
			•
<u>RITON® IS A TRADEMARK O</u>	F ROHM AND HAAS COMPANY	OR ONE OF ITS SUBSIDIARIE	S OR AFFILTATES.
			<u> </u>
A = NOT APPLICABLE C = CEILING VALUE	904162-7	DATE OF ISSUE 01/13/87	SUPERSEDES 11/21/85

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

ROHM AND HAAS COMPANY ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE TO VENDEES, USERS OR THIRD PARTIES CAUSED BY THE MATERIAL. SUCH VENDEES OR USERS ASSUME ALL RISKS ASSOCIATED WITH THE USE OF THE MATERIAL.

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration

Form Approved

EXHIBIT "B"-25

MATERIAL SAFETY DATA SHELI

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I						
ORIGINAL BRADFORD SOAP WORKS INC. EMERGENCY TELEPHONE NO. 401-1821-2114						
ADDRESS (Number, Street, City, State, and ZIP Code) 200 PROVIDENCE ST. WEST WARWICK, R. 1. 02893						
CHEMICAL NAME AND SYNONYMS POTAGH SOAP TRADE NAME AND SYNONYMS 40% LIQUID SOAP						
CHEMICAL FAMILY SOAP FORMULA						
		·				
SECTION	11 -	HAZAF	IDOUS INGREDIENTS			
PAINTS, PRESERVATIVES, & SOLVENTS	*	TLV (Units)	ALLOYS AND METALLIC CCIATINGS	×	TLV (Units)	
PIGMENTS			BASE METAL			
CATALYST			ALLOYS			
VEHICLE		, ,	METALLIC COATINGS			
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX			
ADDITIVES			OTHERS			
OTHERS						
HAZARDOUS MIXTURES	OF (OTHER LIC	NUIDS, SOLIDS, OR GASES	*	TLV (Units)	
N		\bigvee				
1 18		\triangle				
	_	X.				
	/					
950		N 144 5	INCOME DATA			
	T	N III - P	HYSICAL DATA	Т.	1	
BOHLING POINT (F.)			SPECIFIC GRAVITY (H20=1)	1.	034	
VAPOR PRESSURE (mm Hg.)	├		PERCENT, VOLATILE BY VOLUME (%) EVAPORATION RATE	┼	60	
VAPOR DENSITY (AIR=1)	 	·	(=1)	↓_		
SOLUBILITY IN WATER		MPLETE	· · · · · · · · · · · · · · · · · · ·			
APPEARANCE AND ODOR CLEAR, YELLOW, HEAVY LIQUID, "FATTY" ODOR						
SECTION IV - FIRE AND EXPLOSION HAZARD DATA						
FLASH POINT (Method used) 4 FLAMMABLE LIMITS Lel Uei						
EXTINGUISHING MEDIA						
SPECIAL FIRE FIGHTING PROCEDURES						
						
UNUSUAL FIRE AND EXPLOSION HAZAROS						

,·						
	S	ECTION	IV	- HEA	LTH HAZARD (DATA
THRESHOLD LIMIT	VALUE					
EFFECTS OF OVER	EXPOSURE S.	AME .	A S	con	MON SOAF	>
EMERGENCY AND F	IRST AID PROCED	URES E	YE:	5- F	LUSH WIT	H WATER
INGES.	TION - USU	ALLY A	V07	HING	F (NO EMET	rics)
	15	PROBL	EI	ns,	CONSULT	PHYSICIAN
		OF 0714				
	,	SECTION			EACTIVITY DA	TA
STABILITY	UNSTABLE		╄	NDITION	IS TO AVOID	
		. X.	_			age of a control of the control of t
INCOMPATABILITY	(Materials to evoid)	AC	ID	s, m	ETALLIC	SALTIS
HAZARDOUS DECO	MPOSITION PRODU	JCTS				
HAZARDOUS	MAY OCCU	R			CONDITIONS TO	AVOID
POLYMERIZATION	WILL NOT	OCCUR		X		
			`.	i		
	SEC	rion VI	1 - 9	SPILL	OR LEAK PROC	EDURES
STEPS TO BE TAKE	N IN CASE MATER	IAL IS RE	LEAS	ED OR S	PILLED	
	FL	USH	AW	AY V	VITH WA	TER
		* !				
WASTE DISPOSAL N	AETHOD	No	RI	1AL		
						
				· · · · · · · · · · · · · · · · · · ·	 	
					· · · · · · · · · · · · · · · · · · ·	
	SECTION	VIII -	SPE	CIAL P	ROTECTION IN	FORMATION
RESPIRATORY PRO	TECTION (Specify	lype)				
VENTILATION	LOCAL ZXHAUS	, 		·····		SPECIAL
	MECHANICAL /G	enerel)				OTHER
PROTECTIVE GLOVES EYE PROTECTION DESIRE ABLE				LWAYS DESIREABLE		
OTHER PROTECTIVE EQUIPMENT						
	<i>:</i>	SECTION	N IX	- SPE	CIAL PRECAUT	TIONS
PRECAUTIONS TO	BE TAKEN IN HAN	DLING AN	D ST	ORING		
	NOR	MAL	57	TORA	GE, AWAY	FROM HIGH HEAT
OTHER PRECAUTIO						
						

PAGE (2) 6P0 930-540 Form OSHA-20 Rev. May 72 212 Arlington Street - Chelsea, Massachusetts 02150

August 19, 1987

SPILL PLAN

PURPOSE

The purpose of this plan is to establish a system to be followed in the event of a major spill or leakage. Leakages or spills may be caused by breakdown in equipment -- valves or pipes, malfunctioning of automatic shutoffs, cracks in kettles, holding tanks, drums and/or human failure.

SCOPE

The scope of this plan is to outline the necessary steps to be taken in the event of spillage and to form a coherent plan to cope with same.

TOOLS

Available on each floor and clearly marked are two (2) drums specifically set aside to aid in controlling spills. One of the drums contains absorbent material; the other contains a shovel with a plastic scoop and other protective gear to be used in the event of a hazardous spillage.

0031-0228



August 19, 1987 Spill Plan - page 2 -

INSTRUCTIONS

Immediately upon noticing a spill, alert as many people as possible. First determine the source of the leakage -- where does it come from? Was it the cause of an accident? If yes, is anyone hurt? REMEMBER, the safety of personnel comes FIRST. Give first aid, call a doctor, etc. Once the source of the spill has been determined, try to contain it. (i.e. If it is an open water valve, close it.) In determining the spill, try to identify the material. Is it hazardous or not? If it is a hazardous material and leaking from an upper floor, make certain to put on protective clothing before working under it or with If possible, try to prevent further spillage. Above all, DO NOT PANIC. A leaking drum may be rotated so that the source of the leak has been neutralized. Next, attack the liquid that has leaked. There are three main reasons for containing a spill:

- 1. To contain a possible hazardfrom spreading.
- 2. To prevent damage to the inventory and reduce the work of removing wet boxes -- repacking, etc.
- 3. To prevent contamination.

Depending on the size and volume use mops and buckets to pick up small spills and absorbent material to absorb and dike larger spills.

0031-0229

August 19, 1987 Spill Plan - page 3 -

If time permits, check MSDS's regarding instructions on spillage.

If an Ammonia spill, make certain to ventilate the area as much as possible.

An Isopropyl Alcohol spill calls for extreme caution not to cause sparks because of a possible fire hazard.

Liquid Caustic is highly corrosive and should not be in contact with skin.

Once the spillage has been contained and absorbed, it must be collected for special and proper disposal. Make certain that the area where the spill has occurred is clean and dry before reopening it for traffic.

REMARKS

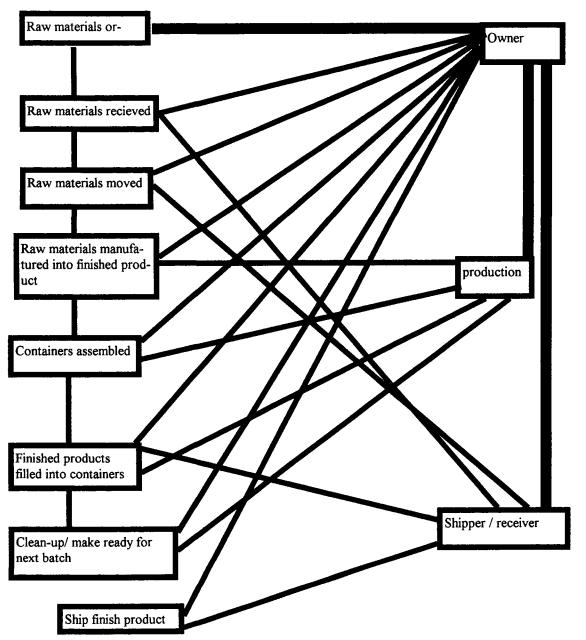
Bear in mind that "spillage" is an accident. Try to find the reason for the accident so that it can be guarded against and not happen in the future. ABOVE ALL, LET COMMON SENSE PREVAIL. While we have written a plan to assist in emergency situations, not all and every possibility has been covered. There may be circumstances that no one could forsee. Again, we urge you to use common sense to deal with such situations.

Good luck and, hopefully, we will never need these instructions.

0031-0230

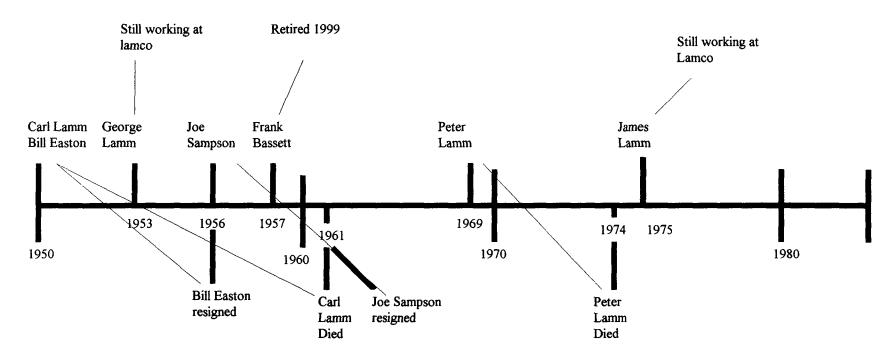
Exh. b. + 3







Employees who had access to production. During 1950-1985



	EXHIBI	T
tabbles	5	
		

ENCLOSURE E-WASTE SURVEY

Name of Respondent: Lamco Chemical
Company

Respondent's Location: Chelsen

Date: 1950 - 85

Substance Physical State when Trade Name/Chemical Volume (per month) Disposal Method and Disposed/Type of Composition (e.g. Nitric Location acid/HNO3, Container (e.g. Liquid/5 gal (year) (e.g. dumpster('55-68), [Name] Tetrahydrofuran/C₄H₈O.) Landfill('69-81), pails, Sludge/55 gal drums, [Name] Solvent Reclaimer('82-'91). Solid/directly in dumpster.) Acids Adhesives Asbestos Adsorbents (from spills, leaks, etc.) Automotive Related Wastes: Antifreeze **Batteries** Brake Fluids Degreasers Lubricants Oils

				· · · · · · · · · · · · · · · · · · ·	
	Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO ₃ , Tetrahydrofuran/C ₄ H ₈ O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
	Oil Filters			0	
	Transmission fluids			0	
	other:			,0	
	Batteries		·	0/21975-	Battern - veturely
	Bleaches		10/	0	porture
	Caustics/Alkalis	ces a by Proclue	orb with Back	disposal and in	cak collection
	Chemicals	/ (,,		11
	Cleaning compounds or ? fluids	/ (11 (4)	· ·	<i>'</i> (
. \.	Coolants	·	1	Rey O	
wa	Degreasers	ł (10	20	11
	Disinfectants	11	((10	//
	Distillation Byproducts (Still Bottoms)			0	
	Dyes			0	
	Etching Solutions			0	
	Filters			0	

Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO ₃ , Tetrahydrofuran/C ₄ H ₈ O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
Flammable, Reactive, or Explosive Materials			0	
Fungicides			0	
Herbicides			0	
Insecticides			0	
Insulating/Fire Proofing Materials			0 /	c.ty track
Laboratory Wastes	Sold		1- 200 8/mouth	c.ty trash
Lubricants			0	0
Metals:			0	
grindings			0	
powders			0	
shavings			0	
sludges			0	
solutions			0	
other:			0	
Paint and Coating Wastes:			0	

Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO ₃ , Tetrahydrofuran/C ₄ H ₈ O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
paint			0	
pigments	}		0	
stripper			0	
stains		·	O	
thinner			0	
turpentine			0	
varnish			0	
other:			0	
PCBs (polychlorinated biphenyls)			0	
Pesticides			0	
Photocopying Wastes:	retired c	int-dee to S	opplien 1/36	
toners				
other:			0	
Photography Wastes:			0	
developers			O	
fixers	,		0	

Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO ₃ , Tetrahydrofuran/C ₄ H ₈ O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
Solvents			0	
Waste Oils	,		0	
Wood Preservatives			0	
Other:			0	

Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO ₃ , Tetrahydrofuran/C ₄ H ₈ O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
			:	

EXHIBIT



SEWERAGE DIVISION

The Commonwealth of Massachusetts

The City of Chelsea, Massachusetts and The Metropolitan District Commission

INDUSTRIAL USER DISCHARGE PERMIT

Number:

11 000 612-1

Category:

3

Expiration Date: January 31, 1984

LAMCO CHEMICAL COMPANY, INC. 212 Arlington Street Chelsea, MA 02150

Gentlemen:

ADDDOTTED.

Pursuant to federal, State, and local regulations LAMCO CHEMICAL COMPANY, INC. (Industrial User) is hereby authorized to discharge sanitary sewage into the MDC sewerage system through the Chelsea sewerage system subject to the conditions set forth in Paragraphs 1, 2, 3, 4, 5, and 6 on the back of this permit.

This permit may be modified by the Metropolitan District Commission (MDC) and the Municipality, acting jointly, as required or authorized by the MDC Sewer User Rules and Regulations, or as required by the federal government or agencies thereof.

Failure on the part of the Industrial User to fulfill any of the specified conditions shall be sufficient cause for immediate revocation of this permit. This permit is further subject to termination upon thirty (30) days written notice to the Industrial User by an authorized representative of the Commission.

ADDDATED.

Any assignment or transfer of this permit shall automatically make it void.

	City of Chelsea, Massachusetts	Metropolitan District Commission
	JESSE W. NEIL Authorized Municipal Official	WAYNE T. GRANDIN Name
	City Engineer Title	Chief Engineer of Industrial Waste
,	Signature 14/29/59/ Date	Signature Signature Bate
/	/	

PERMIT CONDITIONS*

- 1. The Industrial User shall comply with the "Rules and Regulations Covering Discharge of Sewage, Drainage, Substances, or Wastes to Sewerage Works Within the Metropolitan Sewerage District" or with Federal Regulations if more stringent. (Article II, Section 4 and Article IV, Section 4)**
- 2. The Industrial User shall allow Metropolitan District Commission (MDC) and Municipal personnel access to premises for inspection or sampling related to conditions of this permit, (Article II, Section 7(b))
- 3. The Industrial User shall promptly report to the MDC any changes in location, industrial processes, discharges (quantity or quality), or chemical storage procedures. (Article IV, Section 2)
- 4. The Industrial User shall notify the MDC immediately in the event of any accident, negligence or other occurrence that results in discharge to the public sewerage system of any wastes or process wastewaters not covered by this permit; notification shall be made immediately by phoning the MDC at 727-5253, 7:45 AM to 5:00 PM; Monday through Friday and 523-1212 at all other times and by submitting a written report within 24 hours, addressed to the Metropolitan District Commission, Sewerage Division, 20 Somerset Street, Boston, Massachusetts 02108. (Article II, Section 8)
- 5. The Industrial User shall discharge wastewater in conformance with the information contained in the permit application on file with the MDC Sewerage Division. (Article IV, Section 2)
- 6. The Industrial User's discharge shall conform to the wastewater flows and characteristics listed in Attachment "A". (Article IV, Section 2(c))
- 7. The Industrial User shall submit a signed Report as described in Attachment "B" to the municipality and the MDC according to the schedule stated in Attachment "B". (Article IV, Section 2(c))
- 8. The Industrial User shall comply with the pretreatment requirements and schedule in Attachment "C". (Article II, Section 4 and Article IV, Section 2(c))
- Only the paragraphs cited in the Permit letter are applicable.
- ** References are to the MDC Rules and Regulations.

EXHIBIT: 7

J February 1, 1978

EXHIBIT 7

MEMO

SUBJECT: Texic Substances Control Act - Inventory Reporting

Resed on perusal of questions and answers of the final inventory reporting regulations plus inventory reporting requirements as contained in the Federal Register dated December 23, 1977, Part 4, Paragraphs 710.2 (x) and 710.3 (a)(1)(1) and 710.3 (a) (B) (11) plus a telephone call to the Washington Office, it has been determined that this company is not required to file under this Act.

Reasons:

- 1. We are a small manufacturer with less than 5 million worth of sales.
- We do not manufacture any single product that is contained in the TSCA 'list of 190,000 lbs. or more nor is 30% of any single product that we manufacture and contained on the list applicable.

LAMCO CHEMICAL CO., INC 212 ARLINGTON STREET CHELSEA, MA 02150

CHEMICAL COMPANY, Inc.

12 Arlington Street - Chelsen, Massachnustis 82150

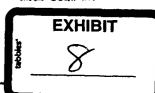


EXHIBIT: 8

February 22, 1978

NEHO

SUBJECT: Taxic Substances Control Act

Based upon review of the above referenced Act (Federal Register IV dated December 27, 1977), the following Lamco menufactured products must be considered "chemical substances".

- A: All soaps manufactured from says fatty acid and reacted with KON (61790-24-7 R325-6776 Fatty Acids, Soys Bean Oil, Potassium Saits)
- B: All soaps manufactured from soya fatty acid and reacted with amines (61790-18-8 R325-6102 Amines, Seya, Alkyl)

The total net weight of these products manufactured in 1977 is as follows:

Category A - 31 batches of Wax & Dirt Remover

22 betches of Ammoniated Stripper

8 batches of Super Stripper

10 batches of Removit

11 batches of Pine Scrub Some

TOTAL: 82 betches with a net weight of scap portion only (ie; the chemical substance) of $208\frac{1}{2}$ lbs. per batch for a total of 17,097 lbs.

10 batches of Pine Cleaner and Decdorizer
Net soap content - 118.8 lbs. per batch for a total of 1188 lbs.

5½ batches of Basic Soap with a net weight content of 237.6 lbs. per batch for a total of 1306.8 lbs.

Total net weight of Category A of all batches is 19,591.8 lbs.

Added to this - 262 batches of Miracle Cleaner (Group 8 above) with a net total per batch of 230 lbs. and a sub-total of 6095 lbs.

This brings the grand total of chemical substances manufactured to 25.686.8 lbs.

The total gallonage of all chemical specialties manufactured in 1977 is about 81,000 gallons or, roughly, 680,400 lbs. gross weight.

(over)

February 22, 1978

Page 2

SUBJECT: Toxic Substances Control Act

These are mostly chemical mixtures as defined in the Act such as floor finishes, floor waxes, window cleaners, bowl cleaners, all purpose cleaners, shampons, etc.

Based on a conservative estimate, the total not weight of these products based on a 15% solid content is 102,060 lbs.

Since the total poundage of our chemical substances (25,687 lbs.) falls short of the 30% rule, our factory is not considered a ~ Chemical Manufacturing Plant Site under the Act and, therefore, it is our opinion that reporting under the Act is not necessary for Lamco Chemical Company, inc.

NOTE: The only question that arose to add additional products to this was the manufacture of Wax Emulsions. These, however, are excluded from the Act (Para, 710.4)(d)(7) - "A chemical substance which regults from a chemical reaction that occurs when emulsified".



TOR	-
	•

ED SIATES		ED STATES PROTECTION AGENCY	1. SAMPLE NO. 227055 3. REGION	<u> </u>	3-30-81
W2 .5		TON, DC 20460	3. REGION	4	2716-25
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CRIPTION OF S				spjes	Q
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	o Chemical Co.		٦	Bisad Clear	
	Arlington Street			9 107.0	R CODE NUMBER(a)
Cher	sea, MA 02150			XM11	R CODE NUMBER(8)
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motion of the product analyzed."

OF THE PRODUCT ONLY."

Sec. 9(a) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 136g) requires that if an analysis is made of any sample collected in connection with the enforcement of the Act, a copy of the results of such analysis must be furnished promptly to the owner, operator or agent in charge of the establishment where the sample was collected. This section of the Act is quoted on the reverse of this form.

The information contained in this report should not be used in the labeling, advertising, or other promotion of the product analyzed. Additional information regarding results of analysis may be obtained from the individual listed below.

f			
NAME AND TITLE OF EP	A OFFICIAL	ADDRESS OF REGION	NAL OFFICE (Include ZIP code)
PHONE NUMBER	DATE		
T HONE			
<u> </u>			



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

TO: Registered Pesticide-Producing Establishments

SUBJECT: Pesticides reports

The Federal Insecticide, Fungicide, and Rodenticide Act, as amended, requires each registered pesticide-producing establishment to report the types and amounts of pesticides produced at, and sold or distributed by, that establishment in calendar year 1979, and the anticipated types and amounts of production during calendar year 1980. Enclosed is the Pesticides Report form on which this information is to be submitted, and instructions for its completion. This form is to be completed and the original and first copy returned to this office by February 1, 1980. Written requests for extensions of up to 30 days will be considered. This form must be submitted even if you produced no pesticides in the past year and will produce none this year, or if all your production was and will be custom-blended products only.

Only those products actually produced at the reporting establishment are to be reported; products sold or distributed by but not produced at the reporting establishment are not to be included in this report. "Produce" has been defined by regulation to mean "manufacture, prepare, propagate, compound, or process any pesticide...or device, or to repackage or otherwise change the container of any pesticide or device" (40 CFR 167.1(c)).

It is unlawful to knowingly falsify all or part of any information submitted on the Pesticides Report or Chemical Formulation Report, or to fail to file such reports (Section 12(a)(2)(M) and (N), 7 USC 136e, 136f). Any information submitted on the Pesticides Report or Chemical Formulation Report other than the names of the pesticides or active ingredients used in producing pesticides produced, sold, or distributed at your establishment will be considered confidential.

For further information, please contact Mr. Palermo of my staff at (617) 223-5126.

Sincerely yours,

A. Charles Lincoln, Ph.D. Chief, Pesticides Branch

Air & Hazardous Materials Division

Enclosure

INSTRUCTIONS FOR FESTICIDES REPORT FOR FESTICIDE-PRODUCING ESTABLISHMENTS (EPA FORM 3540-16)

Section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, requires any producer operating a registered pesticide-producing establishment to inform the Environmental Protection Agency of the types and amounts of pesticides being produced, produced in the past year, and sold or distributed in the past year. This Pesticides Report is to be completed and the original and first copy returned to the EPA Regional Office indicated on the accompanying transmittal letter.

TTEM

- 1. EPA ESTABLISHMENT NUMBER Enter the establishment registration number assigned to the establishment, if not already preprinted.
- 2. ESTABLISHMENT NAME AND ADDRESS Enter name and address of establishment. If preprinted name or address is incorrect, make necessary changes.
- 3. SIGNATURE OF ESTABLISHMENT OFFICER Self-explanatory
- 4. TITLE Self-explanatory
- DATE Enter the date of signature in month-day-year sequence.
- 6. TELEHIONE Enter telephone number of establishment, including area code.

Items A through J must be completed for each pesticide produced at the recorting establishment, including all EPA and State-registered pesticides, pesticides produced while product registration is pending, pesticides produced under Experimental Use Permit, and pesticides produced for export only. If an establishment produces a product registered by a different company, the reporting establishment should include that product on its report. A pesticide sold or distributed under several distributor labels should be reported only as a single product rather than reported separately for each label.

A. PRODUCT NUMBER AND CODE

- 1. If a product is Federally registered, enter EPA product registration number. Enter
- "1" under "Code." E.g. 0,0,1,2,3 1, , , , 1 2. If product has EPA registration pending, enter EFA file symbol. Enter "2" under
- "Code." E.g. 0,0,1,2,3 R, 1, 1, 12

 3. If product has EPA Excerimental Use Permit, enter EPA permit number. Enter "3" under "Code." E.g. [0,0,1,2,3] E, X, P, -, 1, G, 3
- 4. If product does not come under any of above, leave product number blank and enter "4" under "Code." If product is assigned EFA Accession Number or a State registration number, enter this number as part of the product name (Item B below). For all "Code 4" products, except those having EPA Accession Numbers or State registrations, a Chemical Formulation Report must also be completed (see below).
- B. HXXDUCT NAME Enter product name exactly as it appears on the product label.
- C. PRODUCT CLASSIFICATION Enter the one code best describing the product.
 - 01 Insecticide
- 06 Nematocida

10 Antifouling paint

- 02 Fungicide
- 07 Plant regulator
- 11 Animal repellent

- 03 Rodenticide
- 08 Defoliant, Dessicant
- 12 Other pesticide (specify)

- 04 Merbicide
- 09 Disinfectant,
- 13 Device

- 05 Algaecide
- Sanitizer, Germicide

- D. PRODUCT TYPE Enter the one code best describing the type of production.
 - 1 Technical material for manufacturing use only
 - 2 Formulation or blending

- 3 Recackaging
 4 Other (specify)
- E. MARKET PRODUCED FOR Enter the code best describing the market for which the pesticide is produced.
 - 1 United States

3 Export out of United

2 United States and export out of United States

States only

F. USE CLASSIFICATION Enter the code for the use classification assigned to the pesticide.

2 Restricted Use 3 Unclassified

- G. AMOUNT PRODUCED PAST YEAR Enter amount (pounds or gallons) of the product produced at the establishment in the immediately preceding calendar year. If establishment produced a technical product, part of which was used to produce a formulated product at the same establishment, report the total amount of technical produced. Foreign establishments report only the amount produced for shipment to the United States.
- H. AMOUNT SOLD/DISTRIBUTED PAST YEAR Enter amount (pounds or gallons) of the product sold or distributed (i.e., released for shipment) by the establishment in the immediately preceding calendar year, regardless of when the product was produced. Foreign establishments report only the amount sold or distributed in the United States.
- I. AMOUNT PRODUCED CURRENT YEAR Enter anticipated amount (pounds or gailons) of the product to be produced at the establishment in the current year. In all cases this figure will be considered an estimate of the current year's production. Foreign establishments report only the amount intended for shipment to the United States.
- J. UNIT OF MEASURE Enter the unit of measure used in Items G, H, I.
 L = pounds G = gallons R = other (specify unit)

If a continuation sheet is required, reproduce form or otherwise provide the required information in identical format. Number all continuation sheets in the upper right-hand corner as: Page of .

It is unlawful to knowingly falsify all or any part of any information submitted on the Pesticides Report or Chemical Formulation Report [section 12(a)(2)(M), 7 USC 136e, 136f]. The Pesticide Report will be treated as confidential pursuant to section 7(d) of FIFPA.

INSTRUCTIONS FOR THE CHEMICAL FORMULATION REPORT

In addition to completing the above, a Chemical Formulation Report <u>must</u> be submitted for any pesticide produced at the reporting establishment meeting the following criteria:

- 1. Pesticide is not registered with EPA or a State; and
- 2. Pesticide does not have EPA registration pending; and
- 3. Pesticide is not produced under an Experimental Use Permit, E.g., an unregistered pesticide produced for export out of the United States. The Chemical Formulation Report must include:
 - 1. The EPA Establishment Number assigned to the reporting establishment;
 - The Item Number (7, 3, 9 etc.) on the Pesticides Report and page number, if necessary, corresponding to the product for which the chemical formulation is given;
 - 3. The product name exactly as it appears in Item 8 of the Pesticides Report; and
- 4. A list of the chemical names for each active and each inert ingredient used in the formulated product and the percentage of each by weight (total must equal 100%).

 The Chemical Formulation Report will be treated as confidential pursuant to section 7(d)

The Chemical Formulation Report will be treated as confidential pursuant to section 7(d) of FIFRA.